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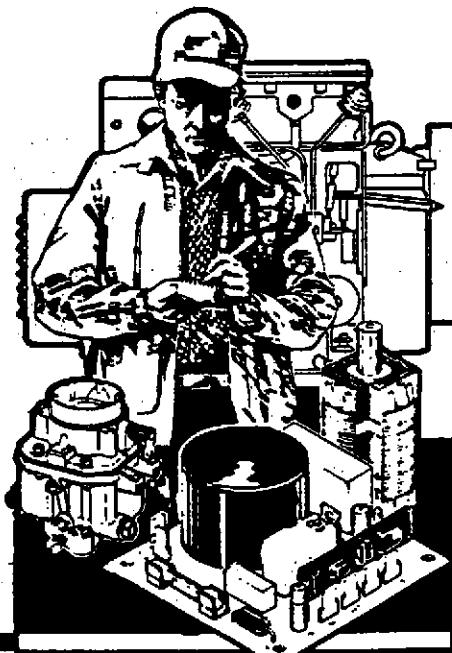
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**Onan**

# **Parts Manual**

**D F E**

**GenSet**



**Onan Service Parts**

**956-0220**

**3-89 (Spec H-M)**

**Replaces 9-86 (Spec H-M)**

**Printed in U.S.A.**

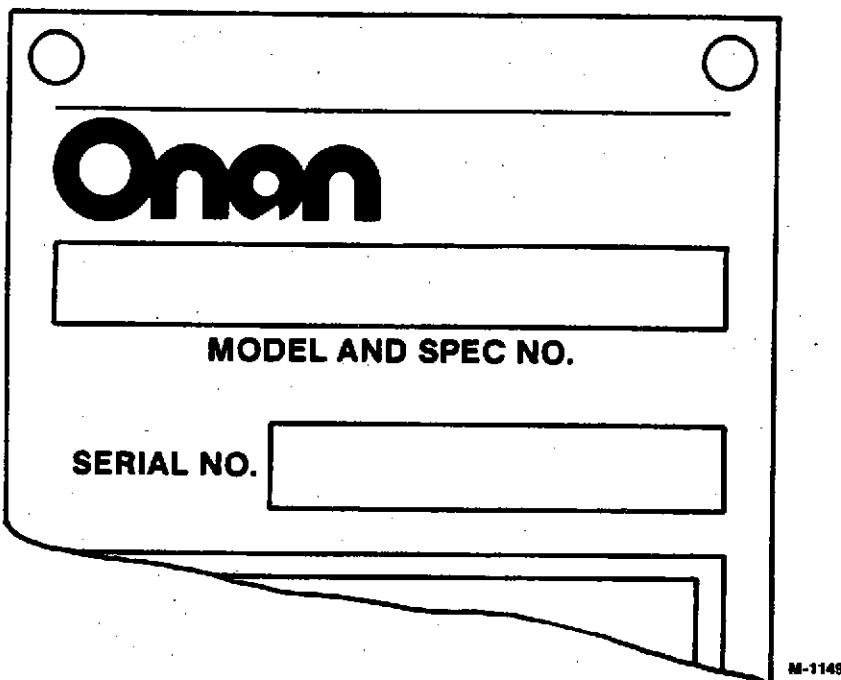


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## General Information

For parts or service, contact the dealer from whom you purchased this equipment or refer to your Nearest Authorized Onan Parts and Service Center.

To avoid errors or delay in filling your parts order, always give the MODEL, SPEC NO. and SERIAL NO. from the Onan nameplate.



M-1149

For handy reference, insert "YOUR" nameplate information in the spaces above.

Std. #36D

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## Introduction

This Parts Manual applies to the Standard Sets Listed below. The illustrations are arranged in groups of related items, and each part or assembly is identified by a Reference Number. All parts illustrated are typical, and unless otherwise mentioned in the description column the parts are interchangeable between models.

These typical illustrations are subject to change and reflect only the latest replacement parts arrangement. The Right and Left sides of the Set are determined by FACING the FRONT of the Set (Engine End)

## Set Data Table

MODEL IDENTIFICATION	RATING	RPM	RATING	BATTERY	VOLTAGE
130.0 DFE - */ # @	130,000 WATTS	1500	RPM	24	VDC
150.0 DFE - */ # @	150,000 WATTS	1500	RPM	24	VDC
150.0 DFE - */ # @	150,000 WATTS	1800	RPM	24	VDC
155.0 DFE - */ # @	155,000 WATTS	1800	RPM	24	VDC
175.0 DFE - */ # @	175,000 WATTS	1800	RPM	24	VDC
180.0 DFE - */ # @	180,000 WATTS	1800	RPM	24	VDC

## Electrical Data Table

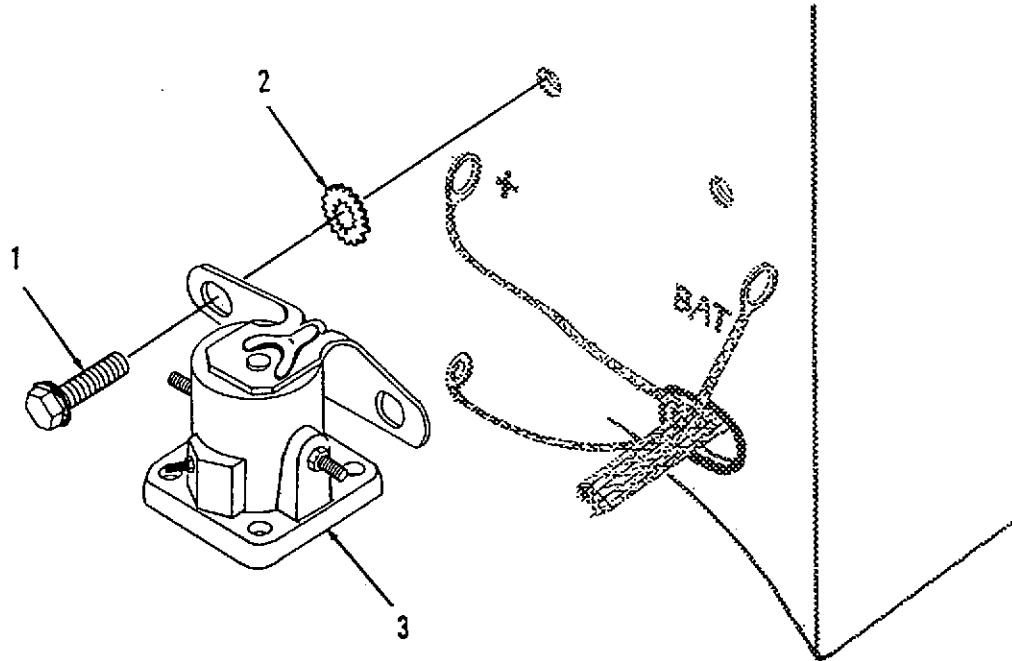
*VOLTAGE CODE	VOLTS	HERTZ	WIRE	PHASE	NOTES
60	240/480	60	4	3	
9X	347/600	60	4	3	
15	120/240	60	12	1	+
15	120/208	60	12	3	+
	120/240	60	12	3	
	127/220	60	12	3	
	139/240	60	12	3	
	240/416	60	12	3	
	254/440	60	12	3	
	277/480	60	12	3	
515	110/220	50	12	1	
	115/230	50	12	1	
.515	110/190	50	12	3	+
	110/220	50	12	3	
	115/200	50	12	3	
	115/230	50	12	3	
	120/208	50	12	3	
	127/220	50	12	3	
	220/380	50	12	3	
	230/400	50	12	3	
	240/416	50	12	3	
	254/440	50	12	3	
15R50	Same as 15	60	12	3	&

- \* - Voltage Codes follow Model Letter designations.
- # - Specification Number: Number 1 is Standard, all others indicate variations.
- @ - Specification Letter: Letter advances ( A to B, B to C, etc) with major manufacturing changes.
- + - The Stators are Reconnectible.
- & - Penn State Sets Only, Special Parts identified in manual when applicable.

## Engine Replacement Parts

All Engine replacement parts must be ordered from the Engine Manufacturer, except those modified or added by Onan. When ordering engine parts, refer to the Engine Manufacturer's Nameplate and supply the Model, Specification, Serial Numbers and other available information. Refer to the Engine Manufacturer's Manuals for your nearest authorized Parts Distributor; or contact the Onan Distributor from whom you purchased this set, for assistance in ordering the replacement parts.

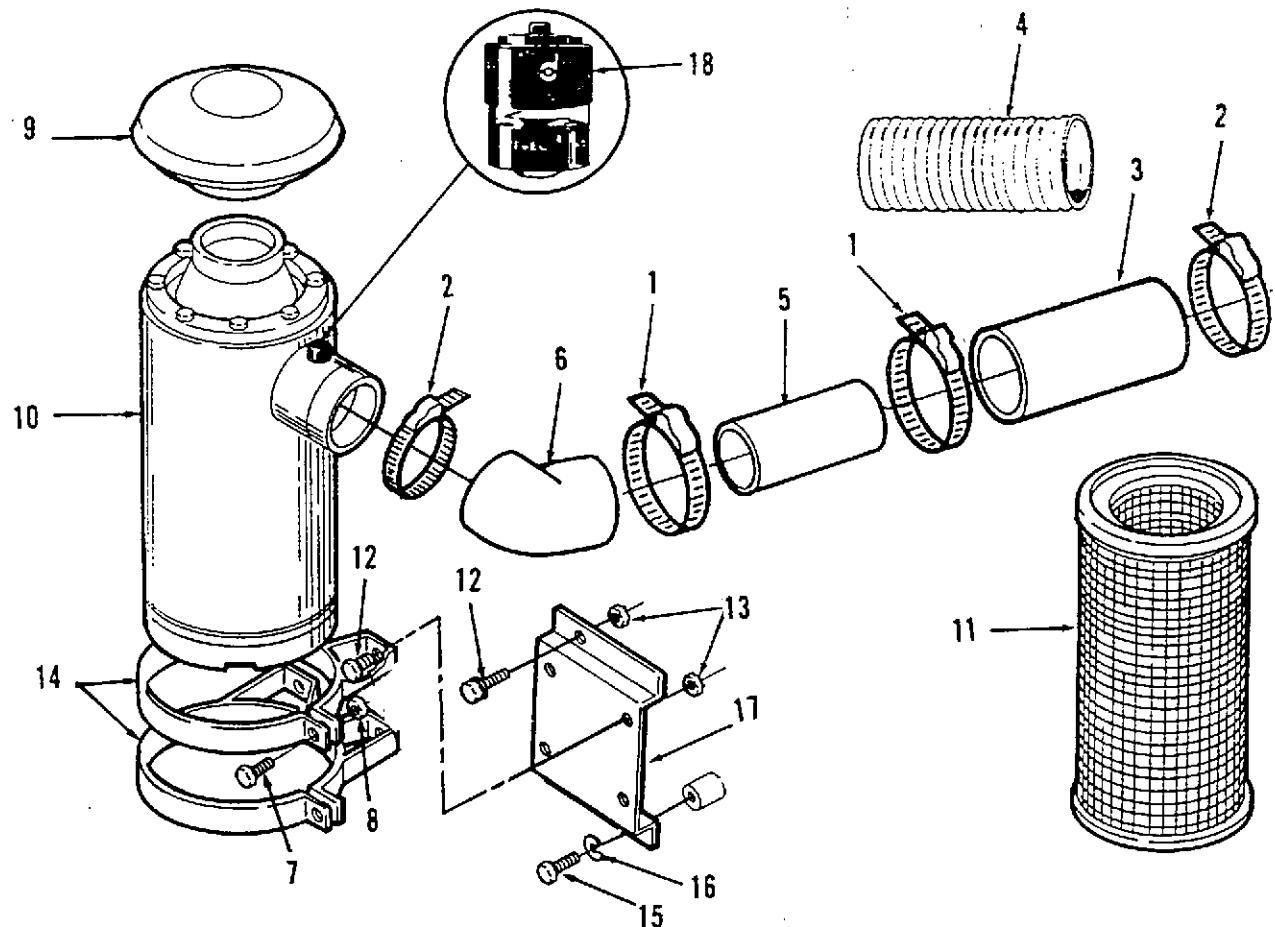
**Start Solenoid**  
**Begin Spec M**



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	821-0010	2	Screw, Self-locking - Hex Head (1/4-20 x 1/2")	2	856-0006	2	Washer, Lock - EIT (1/4")
				3	307-2167	1	Solenoid, Start (K2)

2 A

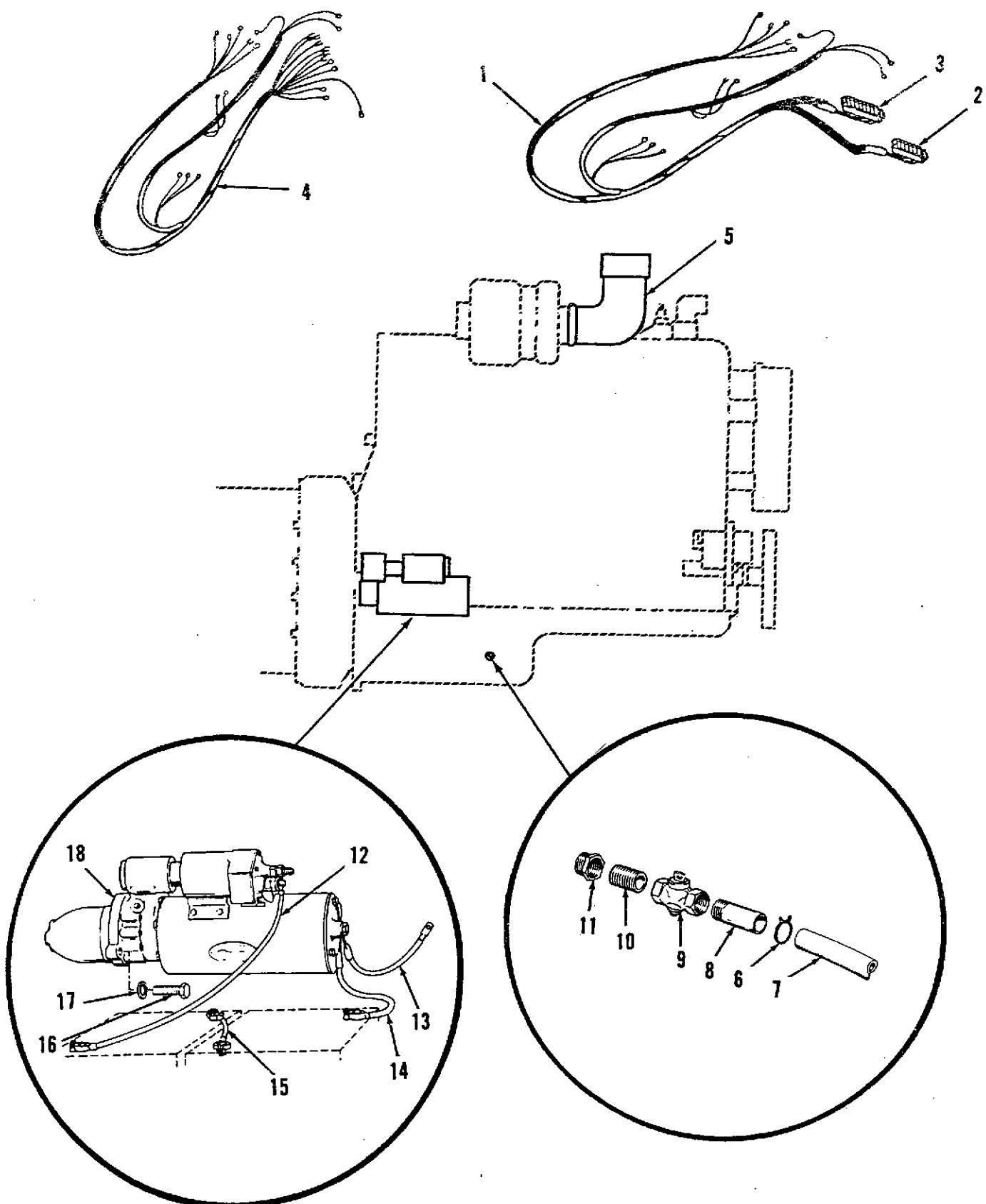
## Air Cleaner



M1290

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	503-0863	2	Clamp, Hose - Begin July 1981	10	140-1346	1	Air Cleaner (Includes Element)
2	503-0863	2	Clamp, Hose	11	140-1376	1	Element
3	503-0806	1	Hose - Begin July 1981	12	821-0029	5	Screw, Self-locking - Hex (3/8-16 x 3/4")
4	503-0855	1	Hose - 1970 Thru June 1981	13	870-0281	5	Nut, Self-locking - Hex
5	140-1795	1	Tube - Begin July 1981	14	140-1345	2	Band, Mounting
6	503-1092	1	Elbow, Hose - Begin July 1981	15	801-0119	2	Screw, Cap - Hex Head (5/16-18 x 1-3/4")
7	800-0032	2	Screw, Cap - Hex Head (5/16-18 x 1-3/4")	16	850-0070	2	Washer, Lock - Spring (5/8")
8	870-0257	2	Nut, Self-locking - Hex (5/16-18)	17	140-1349	1	Bracket, Mounting
9	140-1347	1	Cap, Air Cleaner	18	140-1548	1	Indicator, Service

Miscellaneous Engine Parts  
Left Side

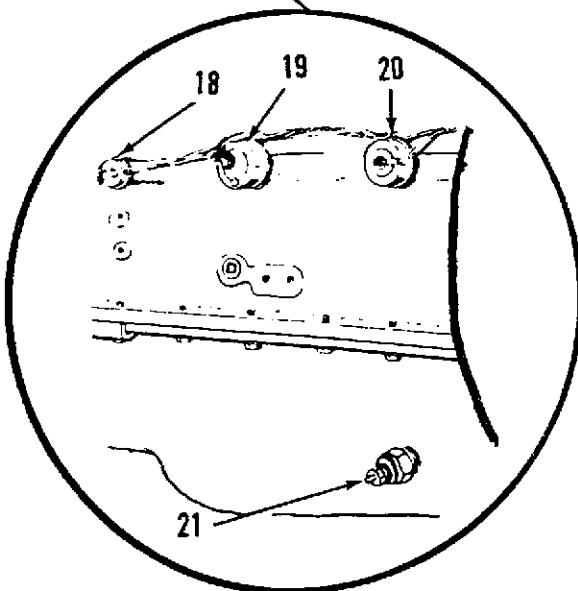
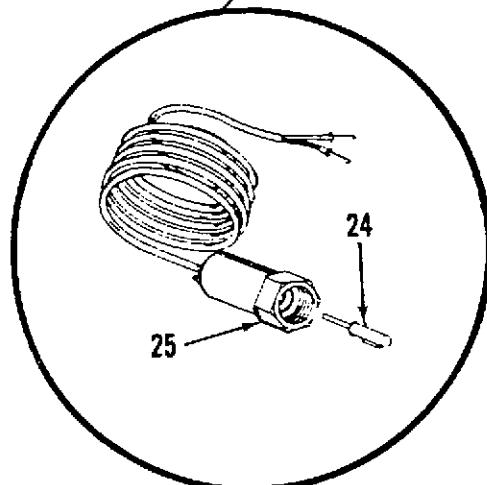
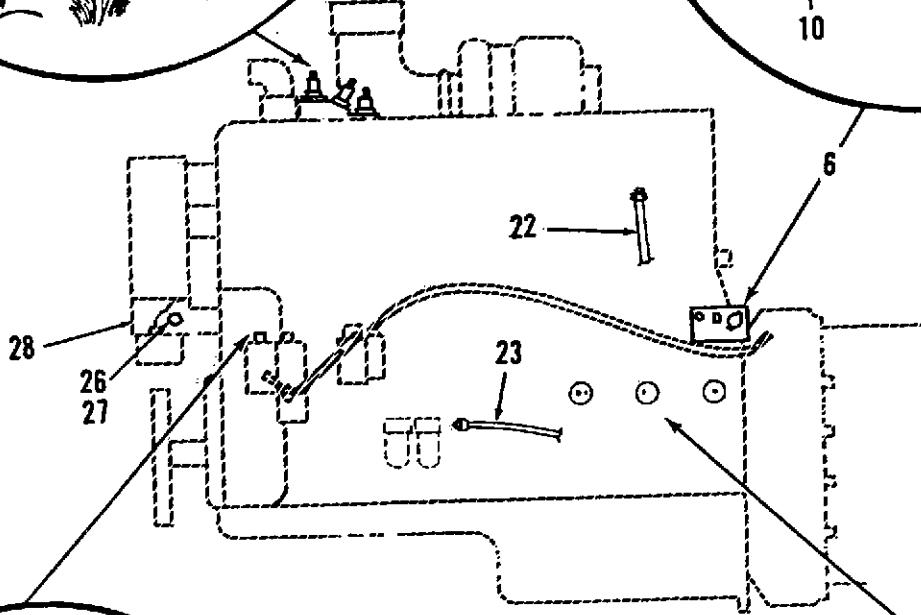
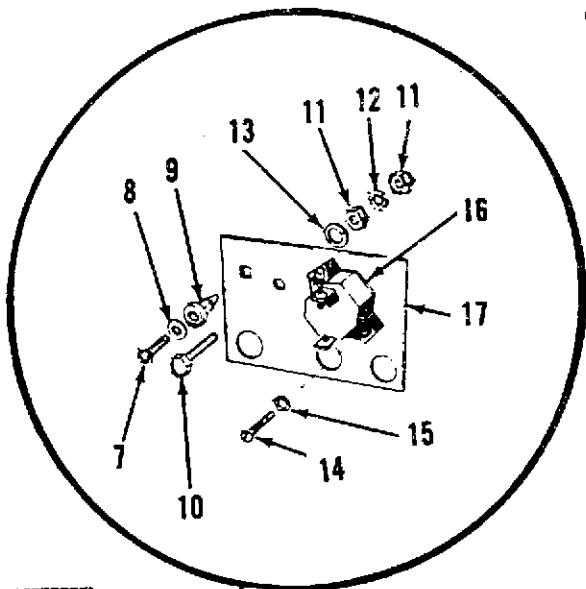
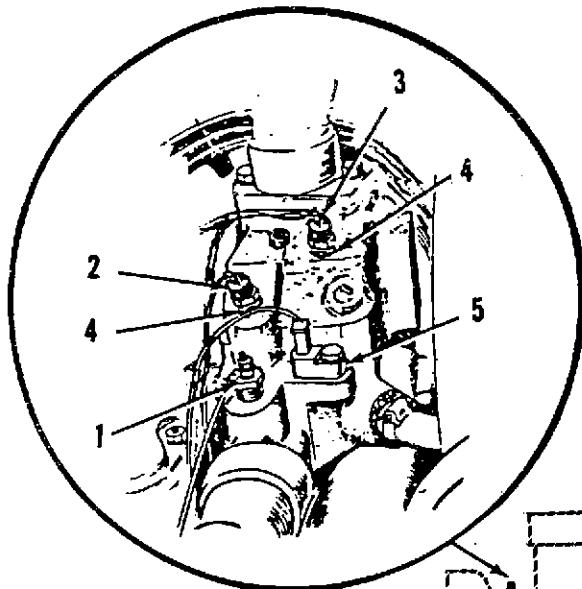


M1239

**Miscellaneous Engine Parts**  
**Left Side**

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	338-2067	1	Harness, Wiring - Begin Spec M (Includes Connectors)	9	504-0011	1	Valve
2	323-1304	1	Housing, Connector - 6 Place	10	505-0100	1	Nipple, Pipe - Close
	323-1200	6	Contact, Pin	11	505-0022	1	Bushing, Reducer - Hex
3	323-1306	1	Housing, Connector ~ 8 Place	12	416-0636	1	Cable, Battery - Positive
	323-1200	8	Contact, Pin	13	416-0632	1	Cable, Electrical - Ground
4	338-0957	1	Harness, Wiring ~ Spec H Thru L	14	416-0639	1	Cable, Battery - Negative
5	155-1035	1	Elbow, Exhaust	15	416-0473	1	Cable, Electrical - Jumper
6	503-0197	1	Clamp, Loop	16	800-0135	3	Screw, Cap - Hex Head (5/18-11 x 2-1/4")
7	503-0888	1	Hose	17	850-0070	3	Washer, Lock - Spring (5/8")
8	505-0185	1	Nipple, Pipe - Half	18	191-1348	1	Starter

**Miscellaneous Engine Parts**  
**Right Side**



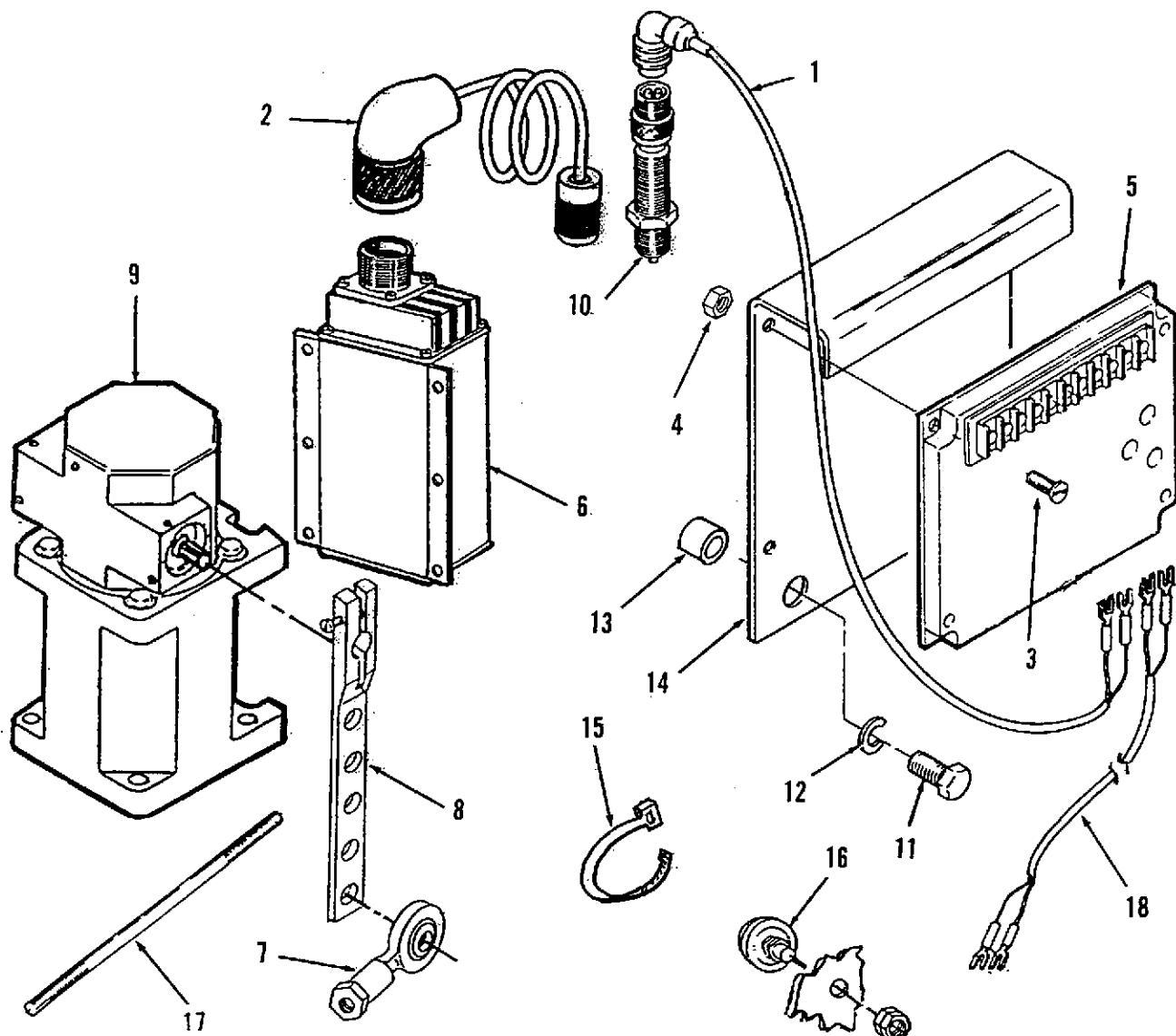
M1240

**Miscellaneous Engine Parts**  
**Right Side**

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1			Sender, Temperature - Engine Coolant (E2)	14	813-0103	2	*Screw, Machine - Round Head (#10-32 x 3/4")
	193-0247	1	Begin Spec K	15	850-0030	2	*Washer, Lock - Spring (#10)
	193-0109	1	Spec H - J	16	320-0240	1	*Breaker, Circuit
2	309-0178	1	Switch, Thermostatic - Coolant Temperature (S2)	17	332-1382	1	*Board, Terminal
3	309-0179	1	Switch, Thermostatic - Coolant Temperature - Shutdown (S6)	18	309-0272	1	Switch, Pressure - Oil - Alarm (S5)
4	505-0117	1	Bushing, Reducer - Flush	19		1	Sender, Pressure - Oil (E1)
5	309-0269	1	Switch, Temperature - Low Engine Temperature (S4)	193-0244		1	Begin Spec K
6	332-1383	1	Terminal Assembly (Includes Parts Marked*)	193-0108		1	Spec H - J
7	809-0035	1	*Screw, Tapping - Round Head (#8 x 3/4")	20	309-0169	1	Switch, Pressure - Oil - Shutdown (S1)
8	508-0015	1	*Washer, Insulating	21		1	Sender, Temperature - Oil (E5)
9	870-0196	1	*Nut, Insulated	193-0249		1	Begin Spec K
10	800-0005	1	*Screw, Cap - Hex Head (1/4-20 x 3/4")	193-0109		1	Spec H - J
11	862-0001	2	*Nut, Hex (1/4-20)	22	501-0216	1	Line, Fuel - Return
12	856-0006	1	*Washer, Lock - EIT (1/4")	23	501-0084	1	Line, Fuel - Incoming
13	850-0040	1	*Washer, Lock - Spring (1/4")	24	302-0753	1	Tang, Drive - Tachometer
				25	302-0750	1	Sender - Tachometer
				26	800-0130	1	Screw, Cap - Hex Head (5/8-11 x 1")
				27	850-0070	1	Washer, Lock - Spring (5/8")
				28	191-1144	1	Guard, Belt

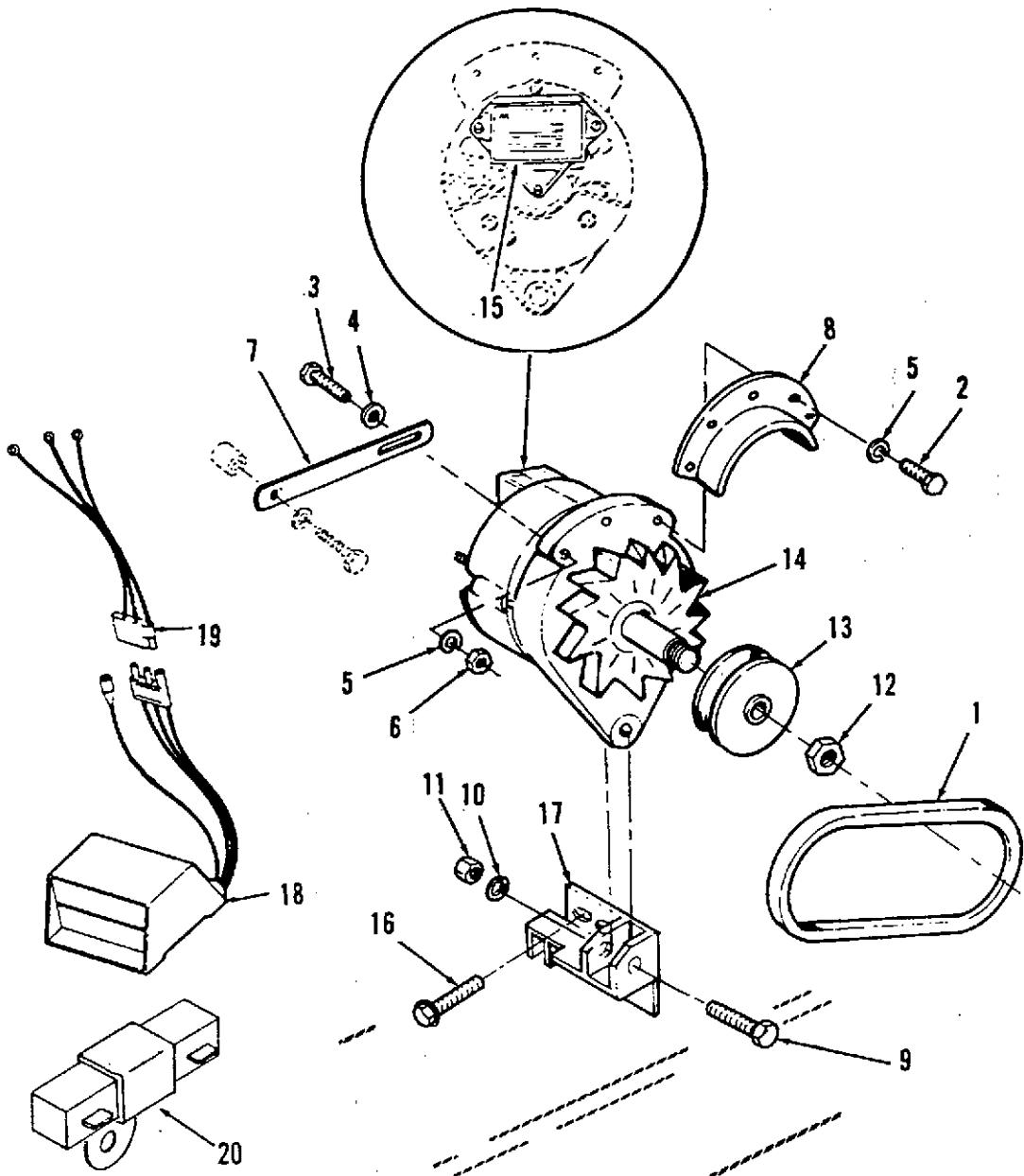
\*- Parts included in Circuit Breaker Assembly.

## Electric Governor



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	338-1765-04	1	Harness, Wiring - Controller to Pickup Begin Spec M	10	151-0411	1	Pickup, Magnetic
2	338-1086	1	Harness, Wiring - Controller to Pickup Spec H thru L	11	800-0151	2	Screw, Cap - Hex Head (3/4-10 x 1")
3	813-0103	4	Screw, Machine - Round Head (#10-32 x 3/4")	12	850-0079	2	Washer, Lock - Spring (3/4")
4	870-0131	4	Nut, Self-locking, Hex (#10-32)	13	370-4040	2	Spacer, Sleeve
5	151-0637	1	Controller, Governor - Begin Spec M	14	150-2007	1	Bracket, Mounting - Begin Spec M
6	151-0399	1	Controller, Governor - Spec H Thru L	15	332-1445	9	Tie, Cable
7	151-0443	2	Joint, Ball - Spec H Thru L	16	151-0402	1	Potentiometer - Speed Control - Spec H Thru L (Mounted in Set Control)
8	151-0441	1	Lever - Spec H Thru L	17	151-0442	1	Rod, Threaded - Spec H Thru L
9	151-0419	1	Actuator Spec H Thru L	18	338-1777	1	Harness, Wiring - Controller to Actuator Begin Spec M
NOTE 1. Part installed by Engine Manufacturer, for Replacement Contact Nearest Cummins Distributor.							
Cummins Engine Co. # 3009247							

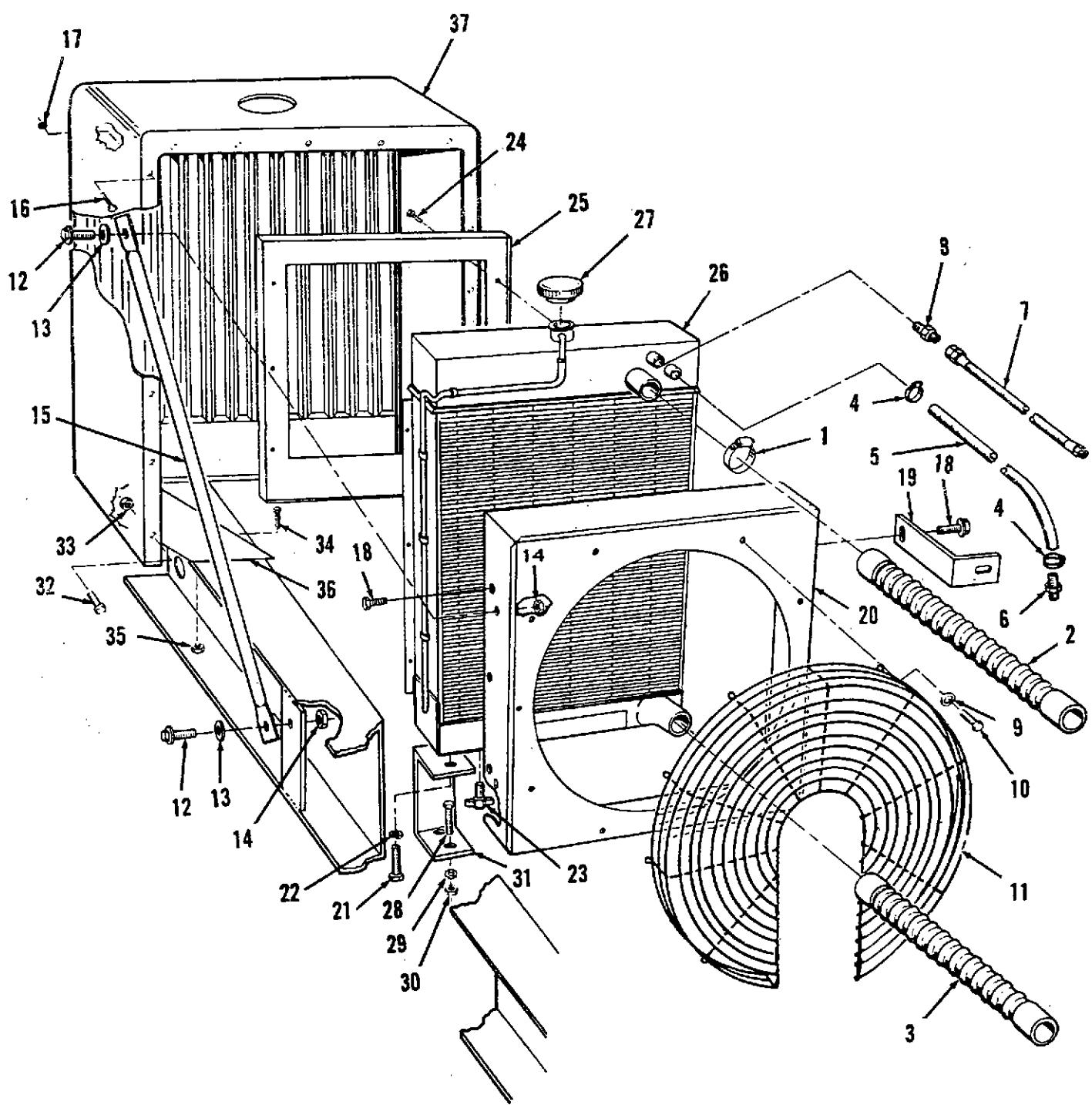
# Alternator



ES1138

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	511-0084	1	Belt	13	191-0781	1	Pulley
2	821-0014	1	Screw, Self-locking - Hex (5/16-18 x 1/2")	14	191-0688	1	Alternator
3	800-0030	1	Screw, Cap - Hex Head (5/16-18 x 1-1/4")	15	191-1258	1	Standard
4	526-0030	1	Washer, Flat (5/16")	16	191-0733	1	Marine
5	850-0045	2	Washer, Lock - Spring (5/16")	17	191-1141	1	Regulator, Voltage (Used with
6	862-0015	1	Nut, Hex (5/16-18)	18	191-0548	1	Standard Alternator)
7	191-0869	1	Strap, Adjusting	19	191-0681	1	Screw, Self-locking - Hex
8	191-0725	1	Guard, Belt	20	191-0550	1	(3/8-16 x 3/4")
9	800-0095	1	Screw, Cap - Hex Head (1/2-13 x 2-1/4")				Bracket, Mounting
10	850-0060	1	Washer, Lock - Spring (1/2")				Regulator, Voltage (Used with
11	862-0016	1	Nut, Hex (1/2-13)				Marine Alternator)
12	868-0007	1	Nut, Hex (5/8-18)				Cable, Electrical (Used with
							Marine Alternator)
							Resistor (Used with
							Marine Alternator)

**Cooling System  
Radiator**

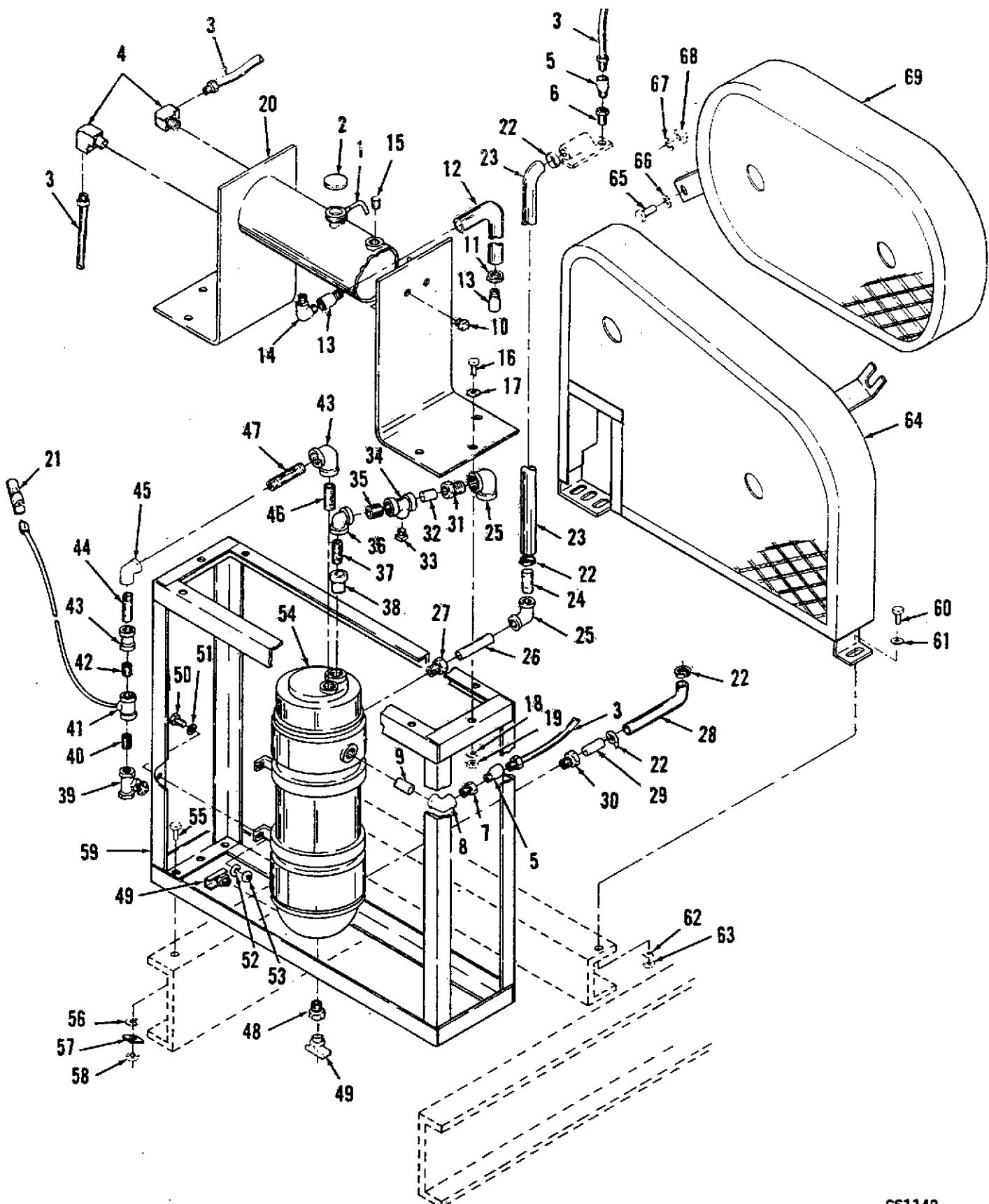


XCS1132

**Cooling System  
Radiator**

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	503-0354	4	Clamp, Hose	20			Shroud, Fan
2	503-0752	1	Hose, Upper	130-1017		1	Opening for 34" Fan
3	503-0858	1	Hose, Lower	130-0846		1	Opening for 32" Fan
4	503-0429	2	Clamp, Hose	21	800-0130	4	Screw, Cap - Hex Head (5/8-11 x 1")
5	503-0877	1	Hose	22	850-0070	4	Washer, Lock - Spring (5/8")
6	505-0759	1	Adapter, Pipe to Hose	23	504-0028	1	Cock, Drain
7	501-0087	1	Line, Fuel	24	821-0014	16	Screw, Self-locking - HEX (5/16-18 x 1/2")
8	502-0184	1	Connector, Pipe	25	130-0842	1	Shroud, Radiator
9	821-0018	8	Screw, Self-locking - Hex (1/4-20 x 5/8")	26	130-0992	1	Radiator (Include Cap)
10	526-0018	8	Washer, Flat (1/4")	27	130-0449	1	Cap, Radiator
11	130-0924	1	Guard, Fan	28	800-0092	4	Screw, Cap - Hex Head (1/2-13 x 1-1/2")
12	821-0029	4	Screw, Self-locking - Hex (3/8-16 x 3/4")	29	850-0060	4	Washer, Lock - Spring (1/2")
13	526-0077	4	Washer, Flat (3/8")	30	862-0016	4	Nut, Hex (1/2-13)
14	870-0281	4	Nut, Self-locking - Hex (3/8-16)	31	130-1412	2	Bracket, Support
15	405-1888	2	Brace	32	821-0016	4	Screw, Self-locking - Hex (5/16-18 x 3/4")
16	821-0016	4	Screw, Self-locking - Hex (5/16-18 x 3/4")	33	870-0257	4	Nut, Self-locking - Hex (5/16-18)
17	870-0257	4	Nut, Self-locking - Hex (5/16-18)	34	800-0030	4	Screw, Cap - Hex Head (5/16-18 x 1-1/4")
18	821-0016	6	Screw, Self-locking - Hex (5/16-18 x 3/4")	35	870-0048	4	Nut, Self-locking - Hex (5/16-18)
19	130-0848	2	Brace	36	405-2016	2	Bracket, Mounting
				37	405-1884	1	Panel, Housing - Front

**Cooling System  
Heat Exchanger**

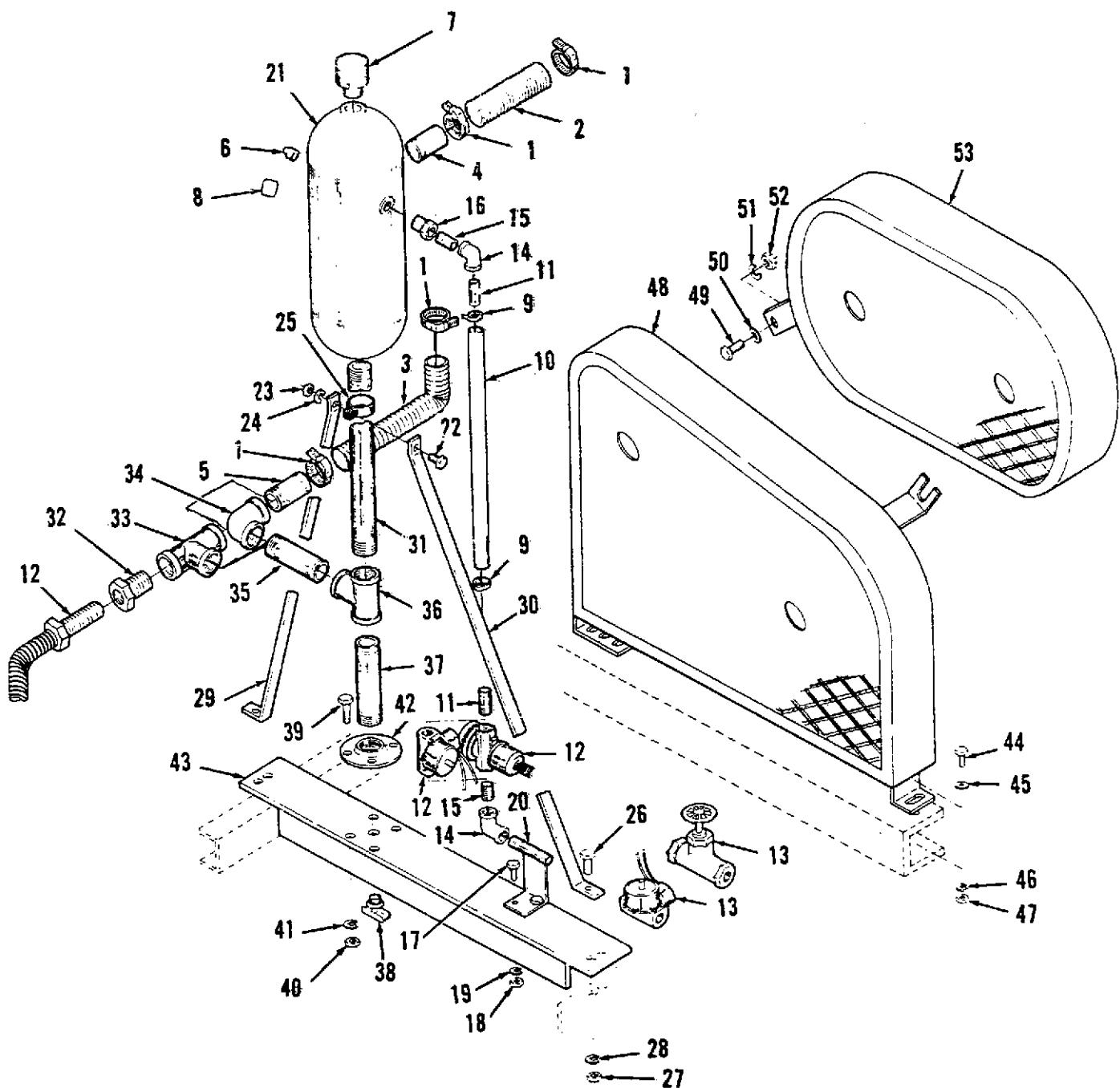


CS1149

**Cooling System  
Heat Exchanger**

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	503-0539	1	Hose	37			Nipple, Pipe
2	130-0449	1	Cap, Radiator	505-0220	1		1-1/2"
3	501-0087	2	Line, Fuel	505-0172	1		2"
4	502-0020	2	Elbow, Pipe - Street, 90 Degree	38	505-0187	1	Bushing, Reducer
5	502-0184	2	Adapter, Pipe to Hose	39	504-0057	1	Valve, Globe
6	502-0143	1	Bushing, Reducer	40	505-0172	1	Nipple, Pipe
7	502-0049	1	Bushing, Reducer	41	307-0844	1	Valve, Solenoid
8	505-0039	1	Elbow, Pipe - 90 Degree	42	505-0172	1	Nipple, Pipe
9	505-0101	1	Nipple, Pipe - Close	43	505-0175	1	Elbow, Pipe - 90 Degree
10	505-0057	2	Plug, Pipe - Square Head	44	505-0405	1	Nipple, Pipe
11	503-0429	2	Clamp, Hose	45	505-0872	1	Elbow, Pipe - 45 Degree
12	503-0799	1	Hose	46	505-0172	1	Nipple, Pipe
13	505-0759	2	Adapter, Pipe to Hose	47	505-0173	1	Nipple, Pipe
14	505-0003	1	Elbow, Pipe - Street, 90 Degree	48	502-0019	1	Bushing, Reducer
15	505-0054	1	Plug, Pipe	49	504-0028	2	Cock, Drain
16	800-0051	6	Screw, Cap - Hex Head (3/8-16 x 1-1/4")	50	800-0051	4	Screw, cap - Hex Head (3/8-16 x 1-1/4")
17	526-0013	6	Washer, Flat (3/8")	51	526-0013	4	Washer, Flat (3/8")
18	850-0050	6	Washer, Lock - Spring (3/8")	52	850-0050	4	Washer, Lock - Spring (3/8")
19	862-0003	6	Nut, Hex (3/8-16)	53	862-0003	4	Nut, Hex (3/8-16)
20	130-1887	1	Tank, Expansion	54	130-1431	1	Exchanger, Heat
21	332-1506	1	Splice	55	800-0094	5	Screw, Cap - Hex Head (1/2-13 x 2")
22	503-0354	8	Clamp, Hose	56	850-0060	5	Washer, Lock - Spring (1/2")
23	503-0752	1	Hose	57	526-0278	5	Washer, Bevel - Square
24	505-0375	1	Nipple, Pipe - Half	58	862-0005	5	Nut, Hex (1/2-13)
25	505-0175	2	Elbow, Pipe - 90 Degree	59	130-1833	1	Frame, Support
26	505-0172	1	Nipple, Pipe	60	800-0028	4	Screw, Cap - Hex Head (5/16-18 x 1")
27	505-0738	1	Bushing, Reducer	61	526-0041	4	Washer, Flat (5/16")
28	503-0858	1	Hose - Preformed	62	850-0045	4	Washer, Lock - Spring (5/16")
29	505-0380	1	Nipple, Pipe	63	862-0014	4	Nut, Hex (5/16-18)
30	505-0738	1	Bushing, Reducer	64	130-1891	1	Guard, Belt
31	505-0187	1	Bushing, Reducer	65	800-0088	1	Screw, Cap - Hex Head (1/2-13 x 3/4")
32	505-0220	1	Nipple, Pipe - Close	66	526-0061	1	Washer, Flat (1/2")
33	505-0402	1	Plug, Pipe	67	850-0060	1	Washer, Lock - Spring (1/2")
34	505-1072	1	Valve, Water Saver	68	862-0005	1	Nut, Hex (1/2-13)
35			Nipple, Pipe	69	130-1136	1	Guard, Belt
	505-0220	1	1-3/4"				
	505-0748	1	9"				
36			Elbow, Pipe - 90 Degree				
	505-0043	1	1-1/2"				
	505-0175	1	2"				

**Cooling System  
Standpipe**

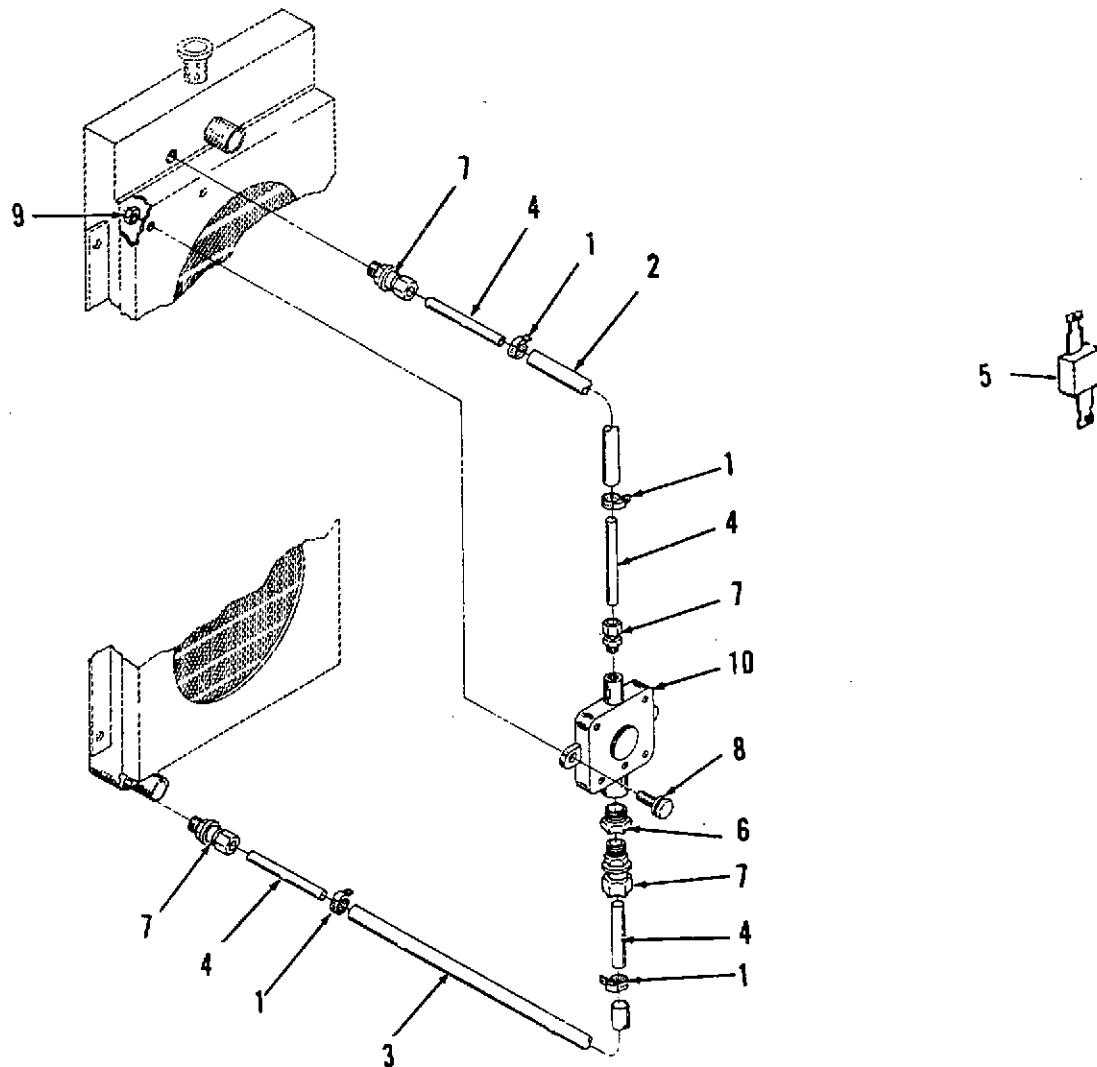


XCS1134

**Cooling System  
Standpipe**

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	503-0354	4	Clamp, Hose	27	862-0005	2	Nut, Hex (1/2-13)
2	503-0617	1	Hose	28	850-0060	2	Washer, Lock - Spring (1/2")
3	503-0858	1	Hose, Preformed	29	130-1178	1	Brace
4	505-0204	1	Nipple, Pipe - Half	30	130-1179	1	Brace
5	505-0875	1	Adapter, Pipe to Hose	31	505-0417	1	Nipple, Pipe
6	505-0140	1	Plug, Pipe - Square Head	32	505-0351	1	Bushing, Reducer
7	504-0062	1	Valve, Vacuum Relief	33	505-0374	1	Tee, Pipe
8	505-0949	1	Plug, Pipe - Socket Head	34	505-0175	1	Elbow, Pipe - 90 Degree
9	503-0189	2	Clamp, Hose	35	505-0748	1	Nipple, Pipe
10	503-0361	1	Hose	36	505-0374	1	Tee, Pipe
11	505-0330	2	Nipple, Pipe - Half	37	505-0405	1	Nipple, Pipe
12			Valve, Control	38	504-0006	1	Cock, Drain
	309-0242	1	Temperature Regulating	39	800-0092	6	Screw, Cap - Hex Head (1/2-13 x 1-1/2")
	307-1135	1	Solenoid	40	862-0005	6	Nut, Hex (1/2-13)
13			Valve, Control	41	850-0060	6	Washer, Lock - Spring (1/2")
	307-1135	1	Solenoid	42	130-0442	1	Base
	504-0090	1	Manual	43	130-0857	1	Support
14	505-0041	2	Elbow, Pipe - 90 Degree	44	800-0028	4	Screw, Cap - Hex Head (5/16-18 x 1")
15	505-0004	2	Nipple, Pipe - Close	45	526-0041	4	Washer, Flat (5/16")
16	505-0023	1	Bushing, Reducer	46	850-0045	4	Washer, Lock - Spring (5/16")
17	800-0007	2	Screw, cap - Hex Head (1/4-20 x 1")	47	862-0014	4	Nut, Hex (5/16-18)
18	862-0001	2	Nut, Hex (1/4-20)	48	130-1132	1	Guard, Belt
19	850-0040	2	Washer, Lock - Spring (1/4")	49	800-0088	1	Screw, Cap - Hex Head (1/2-13 x 3/4")
20	130-0797	1	Nipple, Support	50	526-0060	1	Washer, Flat (1/2")
21	130-0425	1	Tank, Standpipe	51	850-0060	1	Washer, Lock - Spring (1/2")
22	800-0051	1	Screw, Cap- Hex Head (3/8-16 x 1-1/4")	52	862-0005	1	Nut, Hex (1/2-13)
23	862-0003	1	Nut, Hex (3/8-16)	53	130-1136	1	Guard, Belt
24	850-0050	1	Washer, Lock - Spring (3/8")				
25	130-0871	1	Clamp, Loop				
26	800-0092	2	Screw, Cap - Hex Head (1/2-13 x 1-1/2")				

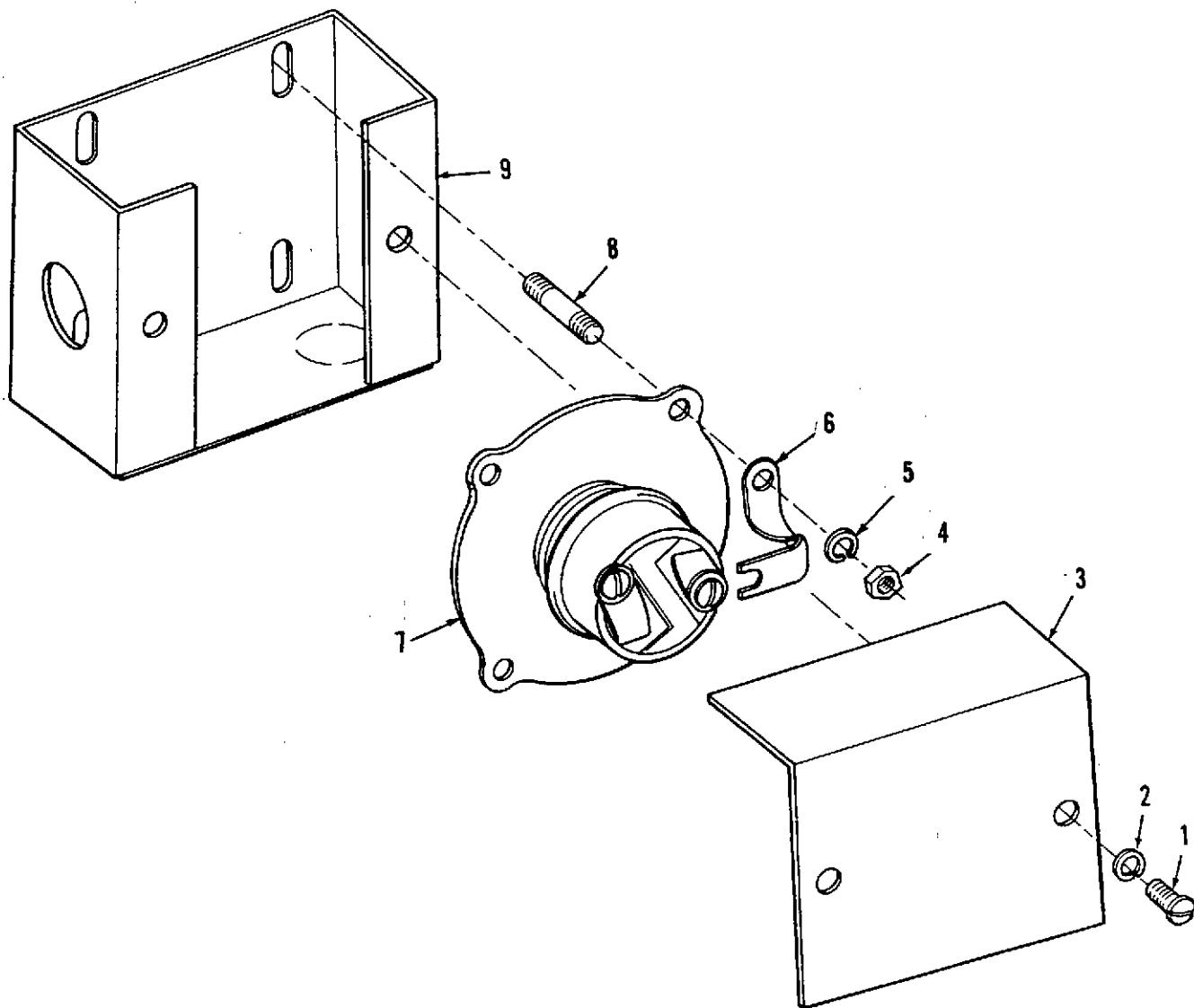
## Coolant Level Switch



CS1148.

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	503-0685	4	Clamp, Hose	7	502-0801	4	Connector, Tube, Brass
2	503-1199	1	Hose	8	821-0011	2	Screw, Self-locking - Hex (1/4-20 x 7/8")
3	503-1119	1	Hose	9	870-0212	2	Nut, Self-locking - Hex (1/4-20)
4	130-2053	4	Tube	10	193-0329	1	Switch, Level - Coolant
5	357-0030	2	Diode				
6	502-0802	1	Bushing, Reducer - Hex				

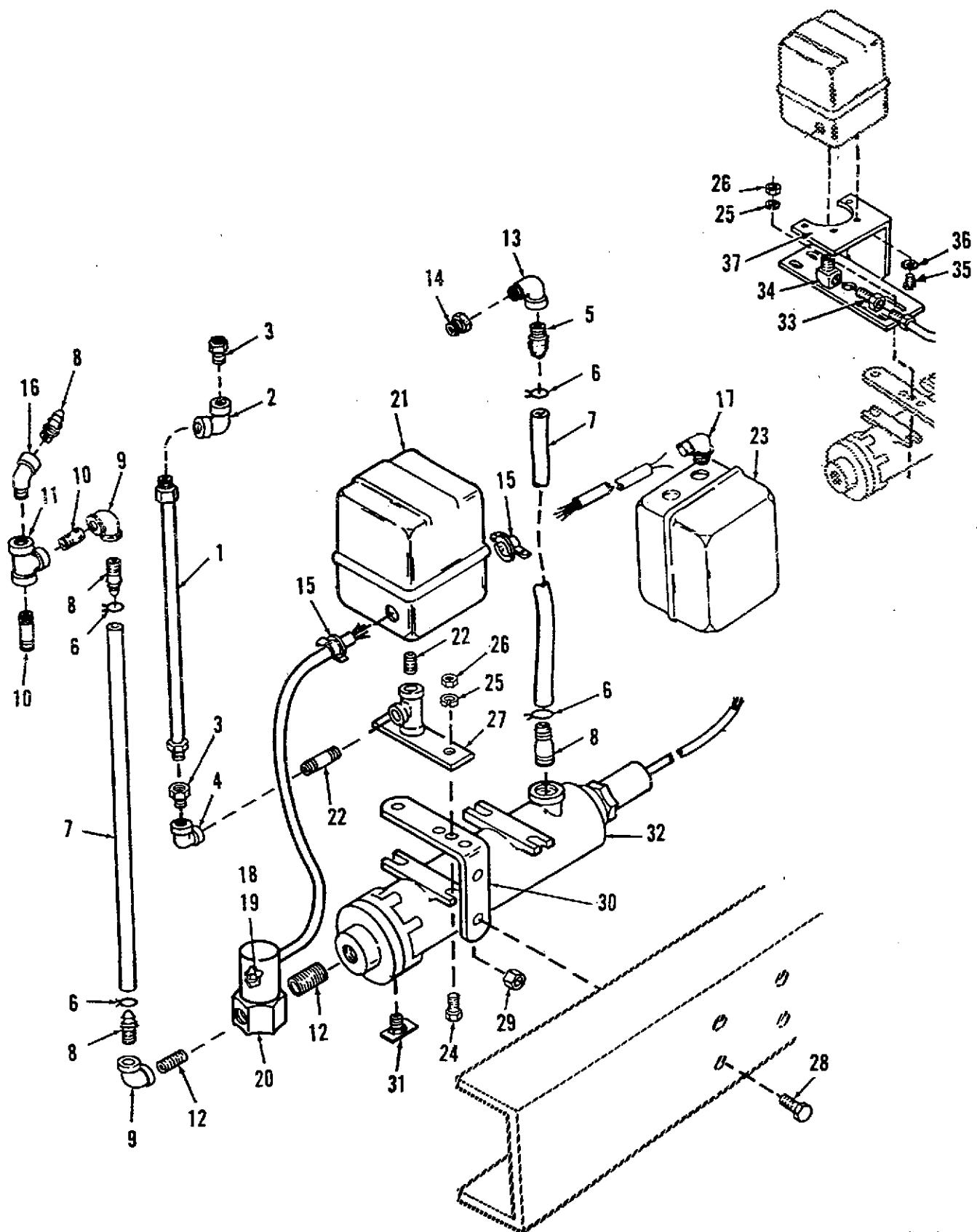
## Engine Temperature Switch



CS1063

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	812-0075	2	Screw, Machine - Round Head (#8-32 x 1/4")	5	850-0030	2	Washer, Lock - Spring (#10)
2	850-0025	2	Washer, Lock - Spring (#8)	6	160-0428	1	Strap, Ground
3	333-0013	1	Cover	7	309-0029	1	Switch, Thermostatic
4	870-0053	2	Nut, Hex (#10-32)	8	520-0446	2	Stud (#10-32 x 3/4")
				9	333-0012	1	Box

**Heater  
Horizontal Tank**

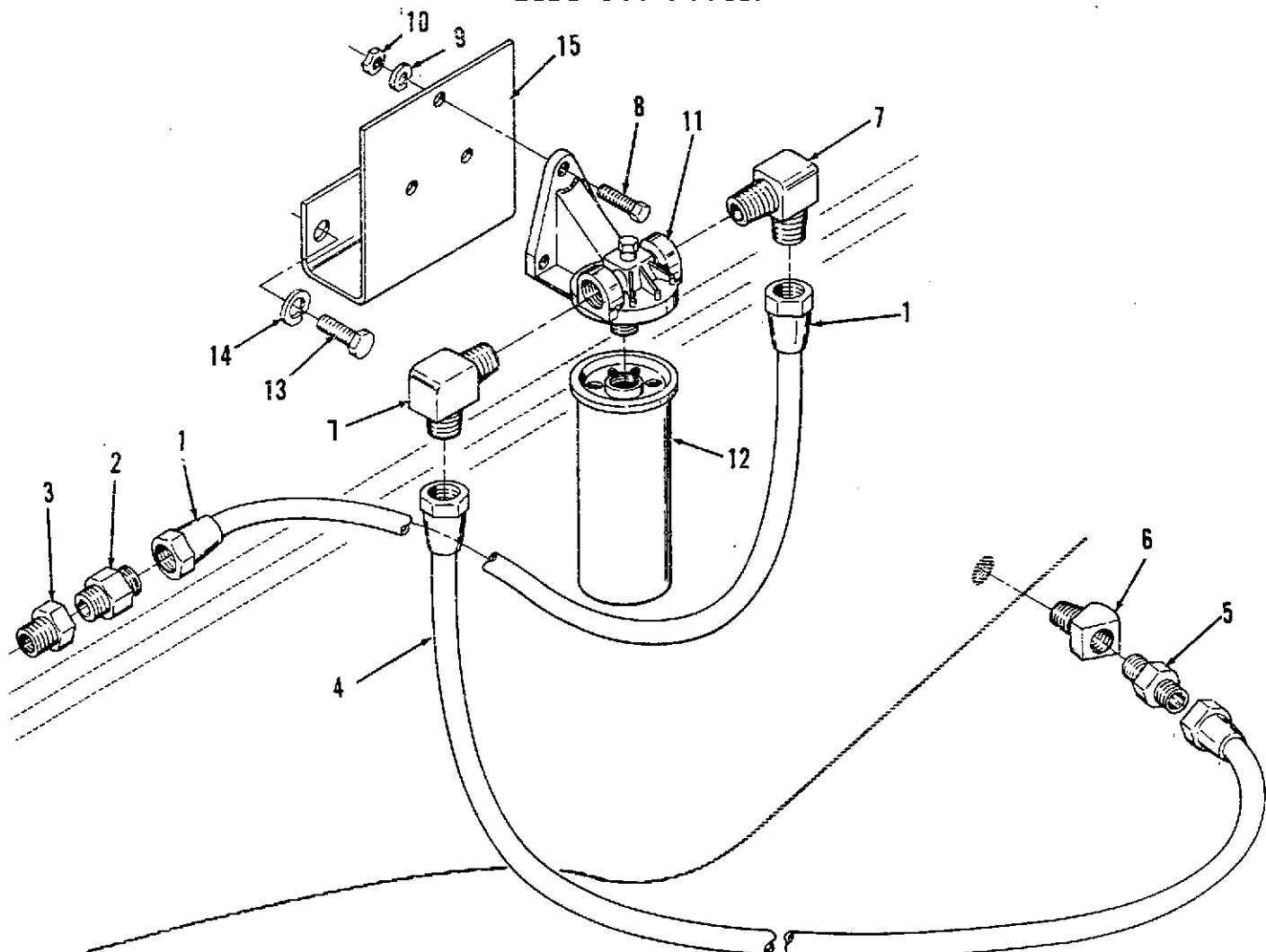


CS1136

**Heater  
Horizontal Tank**

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	501-0227	1	Line, Fuel	25	850-0040	4	Washer, Lock - Spring (1/4")
2	505-0037	1	Elbow, Pipe - 90 Degree	26	862-0001	4	Nut, Hex (1/4-20)
3	505-0007	2	Bushing, Reducer - Hex	27	333-0142	1	Support with Tee (1970 Thru 1982)
4	505-0038	1	Elbow, Pipe - 90 Degree	28	800-0052	2	Screw, Cap - Hex Head (3/8-16 x 1-1/2")
5	505-0324	1	Nipple, Pipe - Half	29	862-0003	2	Nut, Hex (3/8-16)
6	503-0429	4	Clamp, Hose	30	130-1191	2	Bracket, Mounting
7	503-0853	2	Hose	31	504-0003	1	Cock, Drain
8	505-0759	4	Adapter, Hose to Pipe	32			Heater, Electrical
9	505-0041	2	Elbow, Pipe - 90 Degree				2500 Watt, 115 VAC - 1 Phase
10	505-0086	2	Nipple, Pipe				2500 Watt, 208 VAC - 1 Phase
11	505-0304	1	Tee, Pipe				2500 Watt, 208 VAC - 3 Phase
12	505-0004	2	Nipple, Pipe - Close				2500 Watt, 240 VAC - 1 Phase
13	502-0390	1	Elbow, Pipe - Street, 90 Degree				2500 Watt, 380 VAC - 1 Phase
14	505-0289	1	Bushing, Reducer - Hex				2500 Watt, 380 VAC - 3 Phase
15	331-0027	2	Clamp, Cable				2500 Watt, 480 VAC - 1 Phase
16	505-0333	1	Elbow, Pipe - Street, 45 Degree				2500 Watt, 480 VAC - 3 Phase
17	331-0027	4	Clamp, Cable				Bushing, Reducer - Hex (Begin 1983)
18	323-0957	2	Nut, Wire				Elbow, Pipe - Street, 90 Degree (Begin 1983)
19	332-0149	8	Lug, Terminal	33	505-0007	1	Screw, Machine - Round Head (#8-32 x 1/2") (Begin 1983)
20	309-0490	1	Switch, Thermostatic	34	502-0054	1	Washer, Lock - ET (#8) (Begin 1983)
21	309-0307	1	Switch, Pressure - Oil	35	812-0079	4	Bracket, Support (Begin 1983)
22	505-0099	2	Nipple, Pipe - Close (1970 thru 1982)	36	854-0007	4	
23			Contactor	37	333-0224	1	
	307-1460	1	230 VAC, 3 Pole				
	307-1164	1	460 VAC, 3 Pole				
24	800-0007	4	Screw, Cap - Hex Head (1/4-20 x 1")				

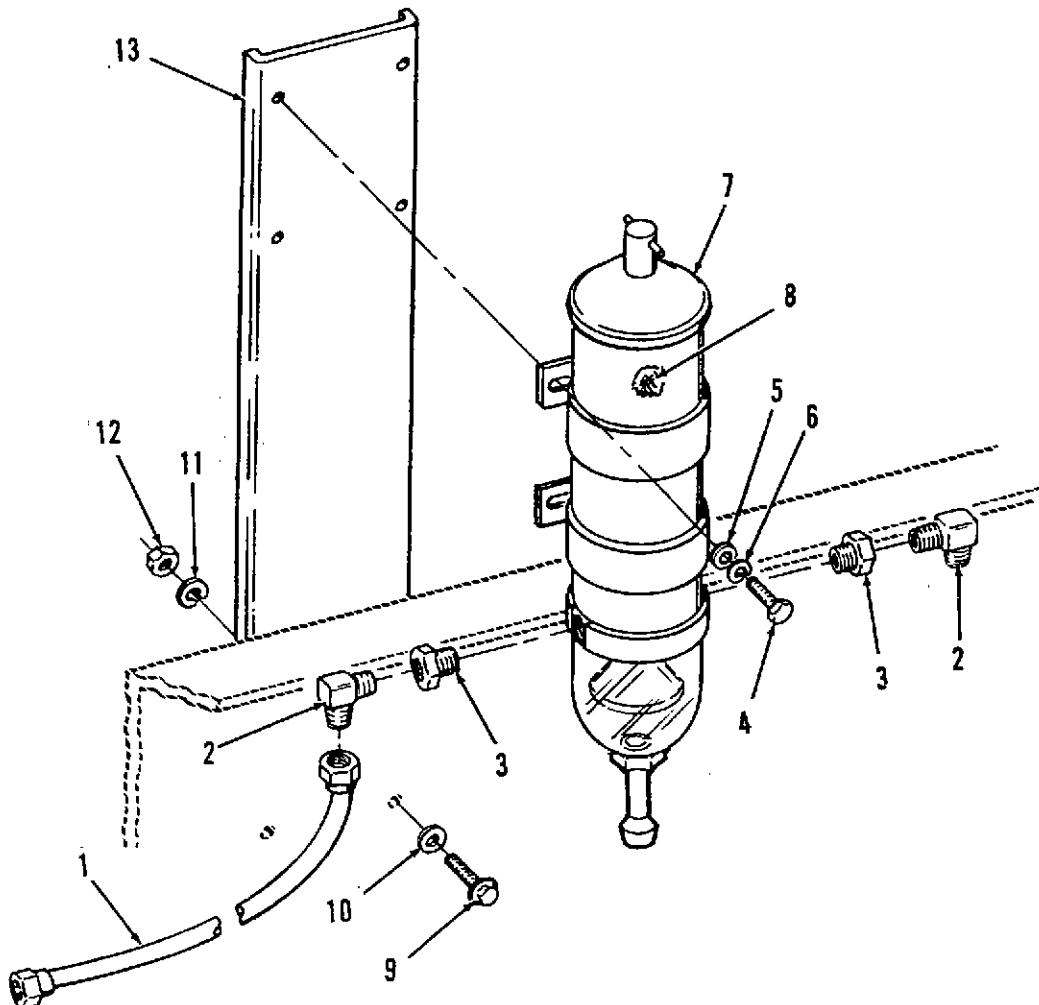
### Lube Oil Filter



LS1071

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	501-0382	1	Line, Fuel	9	850-0050	3	Washer, Lock - Spring (3/8")
2	502-0682	1	Nipple, Pipe - Hex	10	862-0003	3	Nut, Hex (3/8-16)
3	505-0021	1	Bushing, Reducer - Hex	11	122-0524	1	Head, Filter
4	501-0381	1	Line, Fuel	12	122-0526	1	Element, Filter
5	502-0594	1	Adapter, Line to Pipe	13	801-0099	2	Screw, Cap - Hex Head (9/16-18 x 3/4")
6	505-0248	1	Elbow, Pipe - 45 Degree	14	850-0065	2	Washer, Lock - Spring (9/16")
7	502-0277	2	Elbow, Pipe - 90 Degree	15	122-0543	1	Bracket, Mounting
8	800-0053	3	Screw, Cap - Hex Head (3/8-16 x 1-3/4")				

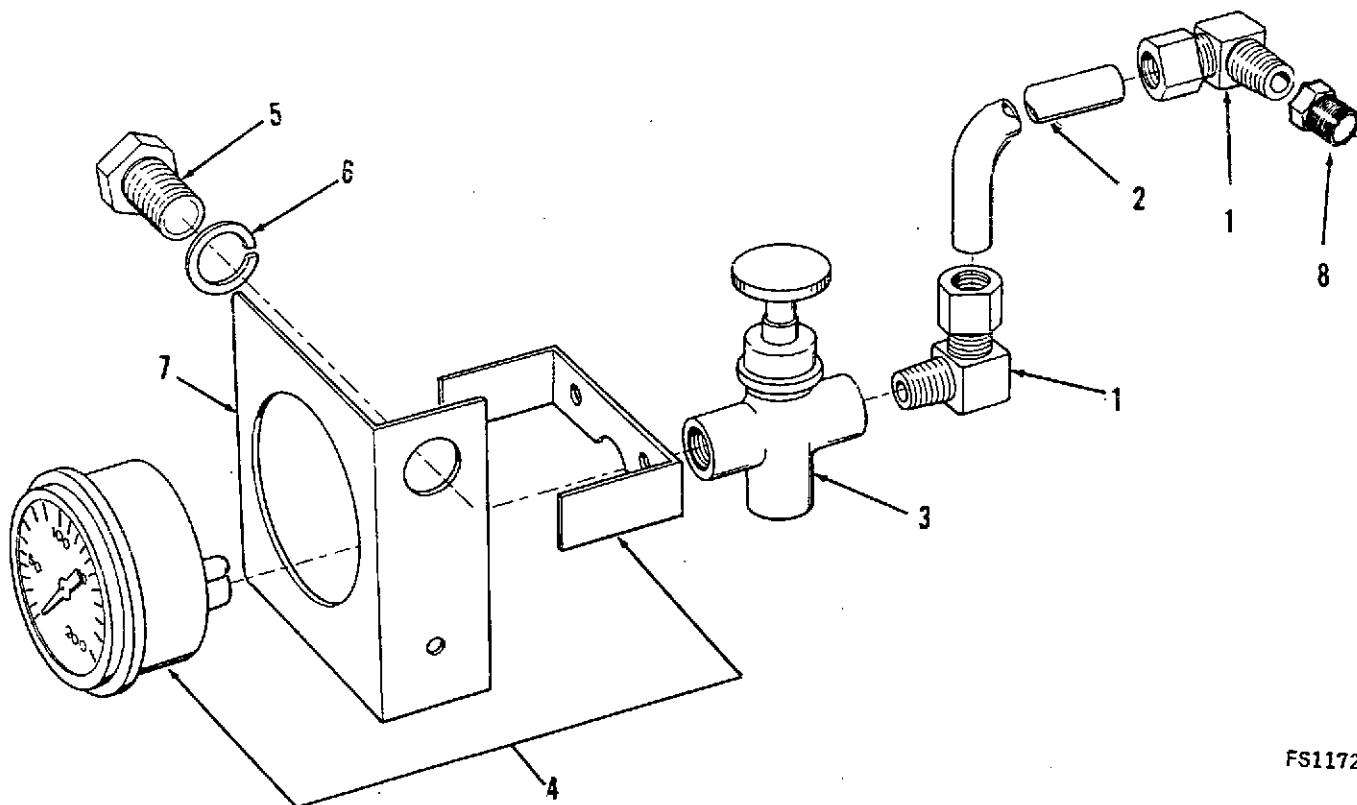
## Fuel/Water Separator



FS1333

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	501-0331	1	Line, Fuel	7	149-1625	1	Separator (Includes Element)
2	502-0702	2	Elbow, Pipe - Street - Male - 90 Degree	8	149-1689	1	Element
3	502-0701	2	Adapter, Pipe	9	800-0051	4	Screw, Cap - Hex Head (3/8-16 x 1-1/4")
4	800-0028	4	Screw, Cap - Hex Head (5/16-18 x 1")	10	526-0026	4	Washer, Flat (3/8")
5	526-0022	4	Washer, Flat (5/16")	11	850-0050	4	Washer, Lock - Spring (3/8")
6	850-0045	4	Washer, Lock - Spring (5/16")	12	862-0003	4	Nut, Hex (3/8-16)
				13	149-1716	1	Bracket, Mounting

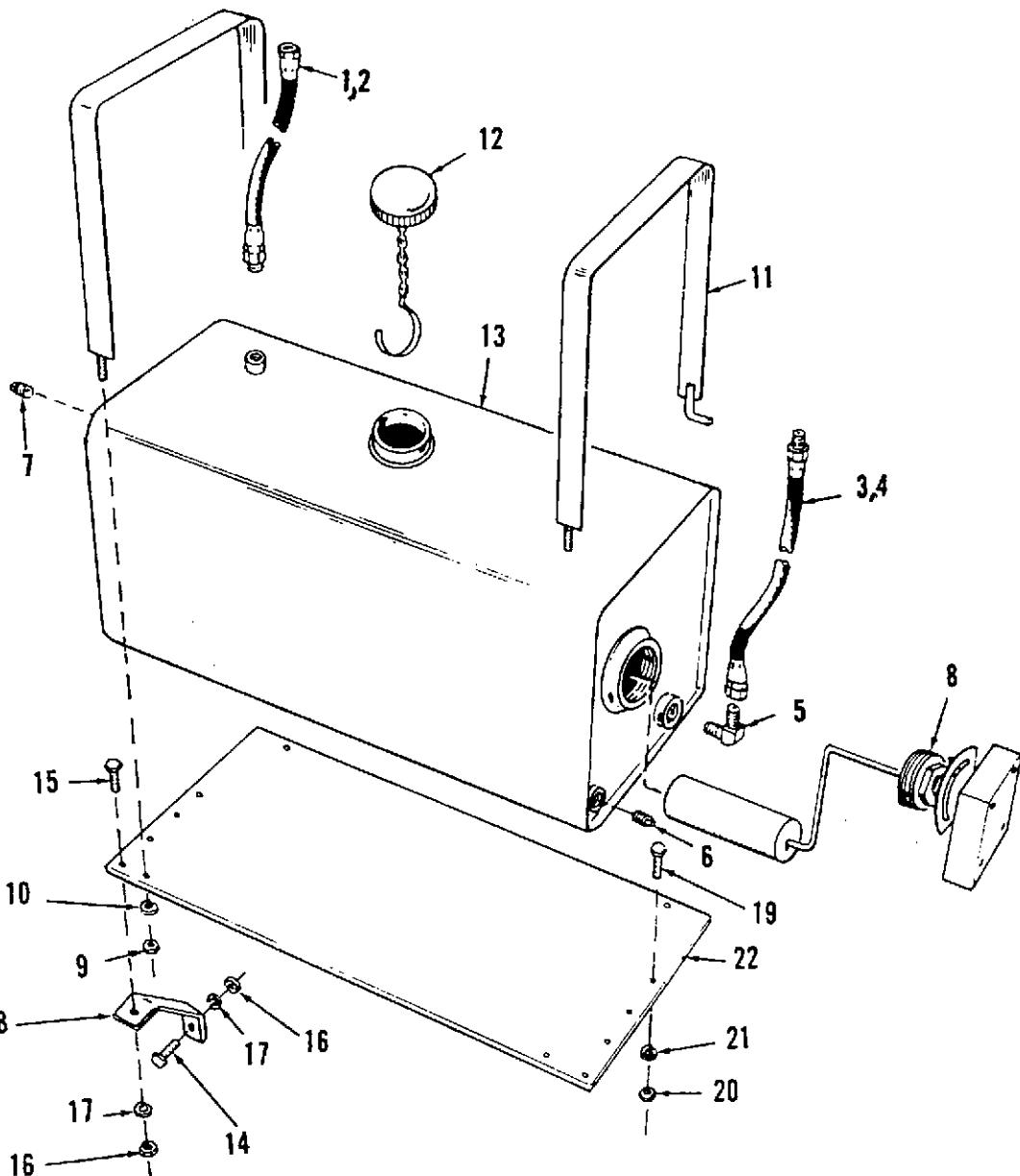
## Fuel Pressure Gauge



FS1172

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	502-0034	2	Elbow, Tube - 90 Degree (Includes Nut and Ring)	5	800-0130	1	Screw, Cap - Hex Head (5/8-11 x 1")
2	370-4003	1	Tube, Copper	6	850-0070	1	Washer, Lock - Spring (5/8")
3	504-0064	1	Valve, Gate	7	193-0029	1	Bracket, Mounting
4	193-0128	1	Gauge, Pressure (Includes Bracket and Hardware)	8	505-0007	1	Bushing, Reducer - Hex (1/4 NPT x 1/8 NPT) Used beginning 1988, may be used on early Sets.

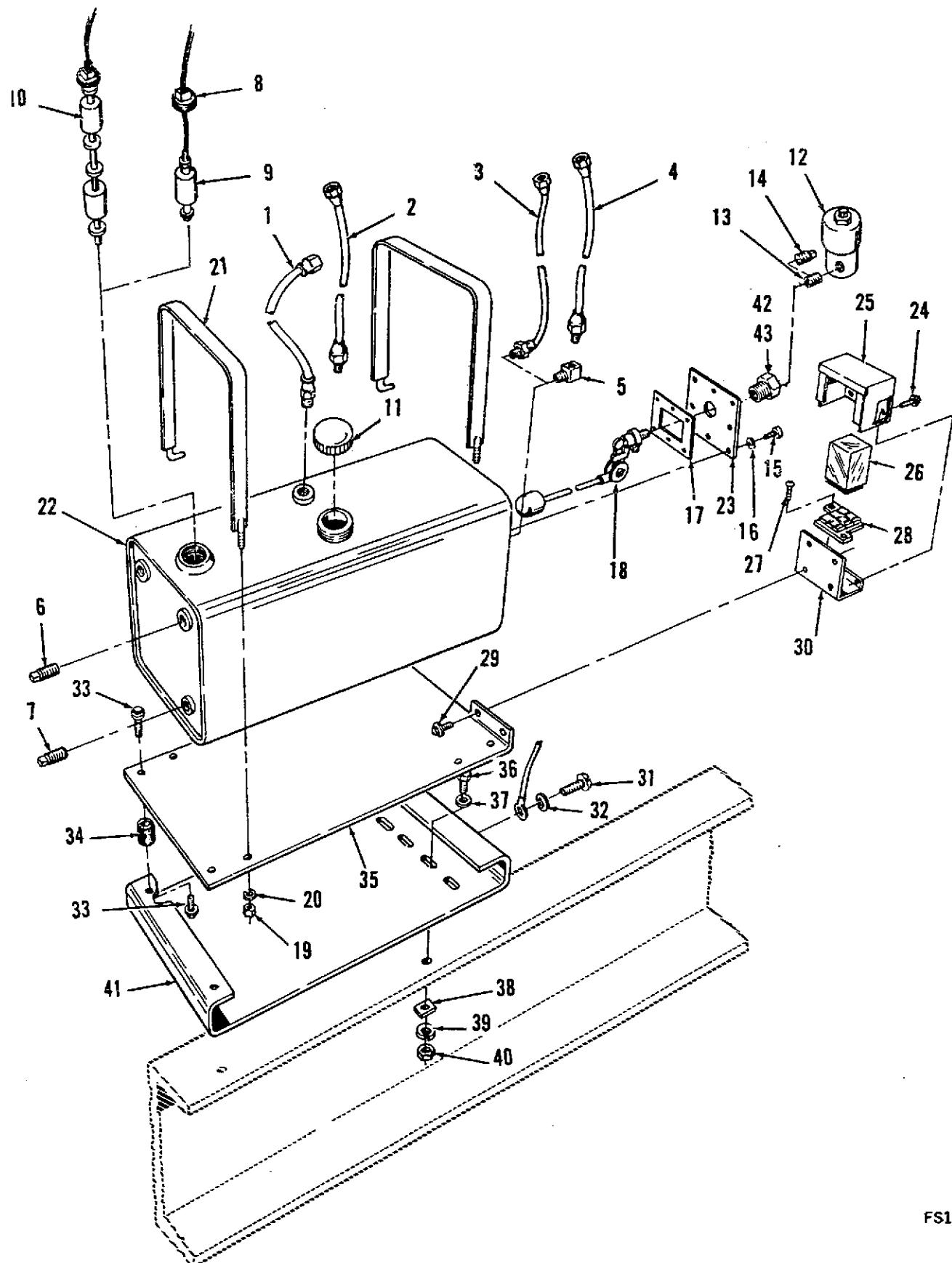
## Fuel Tank



FS1171

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	501-0215	1	Line, Fuel (Housed Set)	13	415-0322	1	Tank, Fuel - 8-1/2 Gallon
2	501-0216	1	Line, Fuel (Unhoused Set)	14	800-0007	2	Screw, Cap - Hex Head (1/4-20 x 1")
3	501-0214	1	Line, Fuel (Housed Set)	15	800-0005	2	Screw, Cap - Hex Head (1/4-20 x 3/4")
4	501-0194	1	Line, Fuel (Unhoused Set)	16	862-0001	4	Nut, Hex (1/4-20)
5	502-0133	1	Elbow, Pipe - Street - 90 Degree (Unhoused Set)	17	850-0040	4	Washer, Lock - Spring (1/4")
6	505-0110	1	Plug, Pipe - Square Head	18	415-0329	2	Brace (Unhoused Set)
7	505-0056	1	Plug, Pipe - Square Head	19	800-0007	2	Screw, Cap - Hex Head (1/4-20 x 1")
8	415-0170	1	Switch, Level	20	862-0001	2	Nut, Hex (1/4-20)
9	862-0001	2	Nut, Hex (1/4-20)	21	850-0040	2	Washer, Lock - Spring (1/4")
10	850-0040	2	Washer, Lock - Spring (1/4")	22	415-0330	1	Plate, Mounting
11	415-0331	2	Strap, Hold Down				
12	159-0020	1	Cap, Tank				

**Fuel Tank**  
**Overhead/Underground Supply**

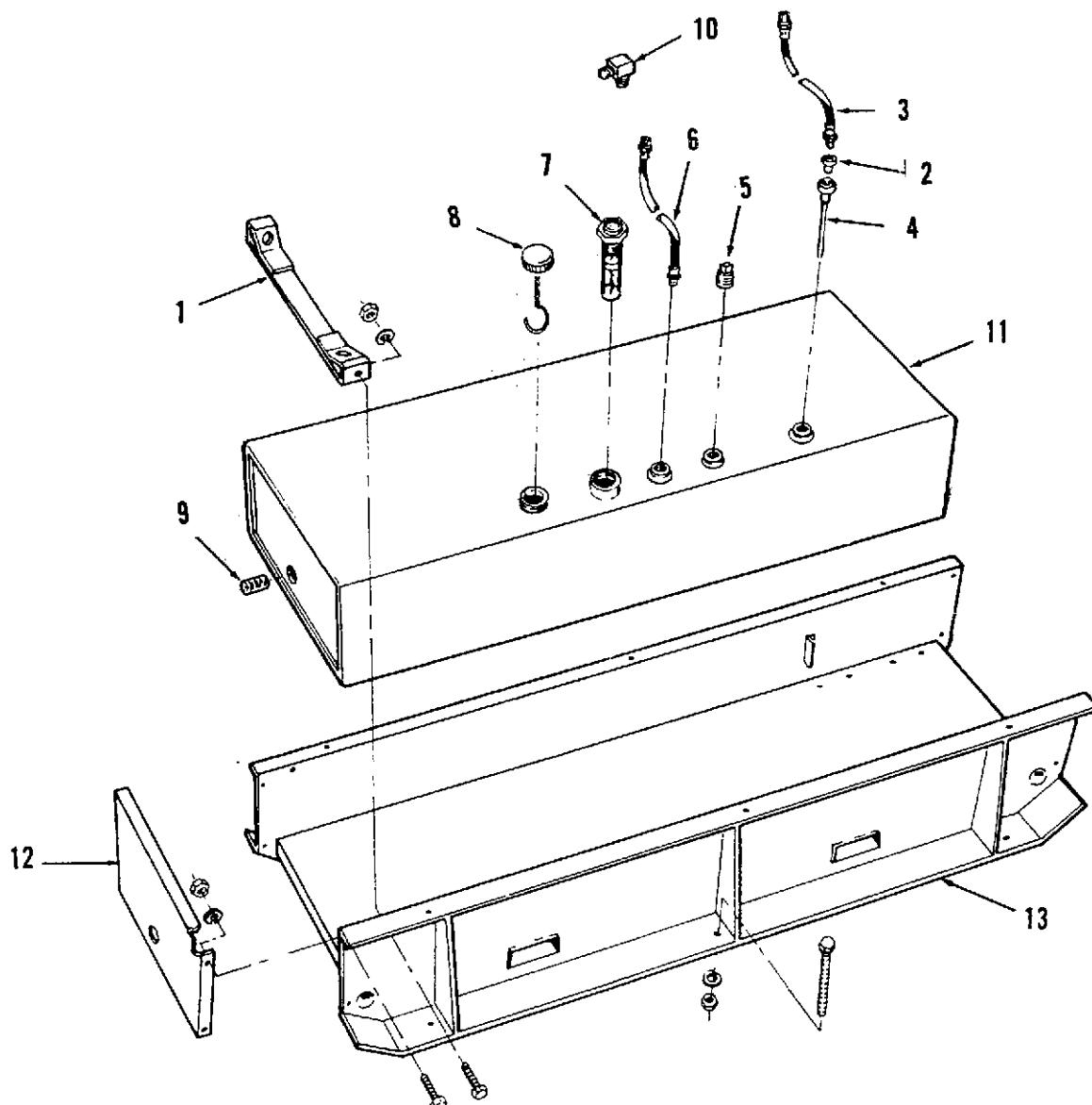


FS1334

**Fuel Tank**  
**Overhead/Underground Supply**

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	501-0215	1	Line, Fuel (Housed Set)	25	415-0464	1	Cover, Access
2	501-0216	1	Line, Fuel (Unhoused Set)	26	307-1056	1	Relay
3	501-0194	1	Line, Fuel (Housed Set)	27	812-0079	2	Screw, Machine - Round Head (#8-32 x 1/2")
4	501-0214	1	Line, Fuel (Unhoused Set)				Socket, Relay
5	502-0133	1	Elbow, Pipe - Street - 90 Degree	28	323-0804	1	Screw, Self-locking - Hex
6	505-0056	2	Plug, Pipe - Square Head	29	821-0008	2	(1/4-20 x 5/16")
7	505-0110	1	Plug, Pipe - Square Head				Box
8	505-1050	1	Plug, Pipe - Modified	30	415-0463	1	Screw, Machine - Round Head (#10-32 x 5/16")
9	415-0466	1	Switch, Float (Overhead Supply)	31	813-0097	1	Washer, Lock - Spring (#10)
10	415-0476	1	Switch, Float (Underground Supply)	32	850-0030	8	Screw, Self-locking - Hex (5/16-18 x 1/2")
11	159-0020	1	Cap, Tank	33	821-0014		Mount, Vibration
12	307-1816	1	Valve, Solenoid (Overhead Supply)				Plate, Mounting
13	505-0098	1	Nipple, Pipe	34	402-0078	2	Screw, Cap - Hex Head (1/2-13 x 1-3/4")
14	505-0057	1	Plug, Pipe - Square Head (1970 thru Aug 1982)	35	415-0479	2	Washer, Flat (1/2")
15	800-0002	8	Screw, Cap - Hex Head (1/4-20 x 3/8")	36	800-0093	2	Washer, Bevel
16	526-0063	8	Washer, Flat (1/4")	37	526-0219	2	Washer, Lock - Spring (1/2")
17	415-0486	1	Gasket	38	526-0278	2	Nut, Hex (1/2-13)
18	309-0404	1	Valve, Float (Overhead Supply)	39	850-0060	1	Bracket, Mounting
19	862-0001	2	Nut, Hex (1/4-20)	40	862-0016	1	Bushing, Reducer - Hex (Begin Sept 1982)
20	850-0040	2	Washer, Lock - Spring (1/4")	41	415-0478	1	Plug, Pipe - Square Head (Begin Sept 1982)
21	415-0509	2	Strap	42	505-0016		
22	415-0465	1	Tank, Fuel - 8-1/2 Gallon	43	505-0110		
23	415-0515	1	Plate, Access				
24	821-0004	2	Screw, Self-locking - Hex (#10-32 x 5/16")				

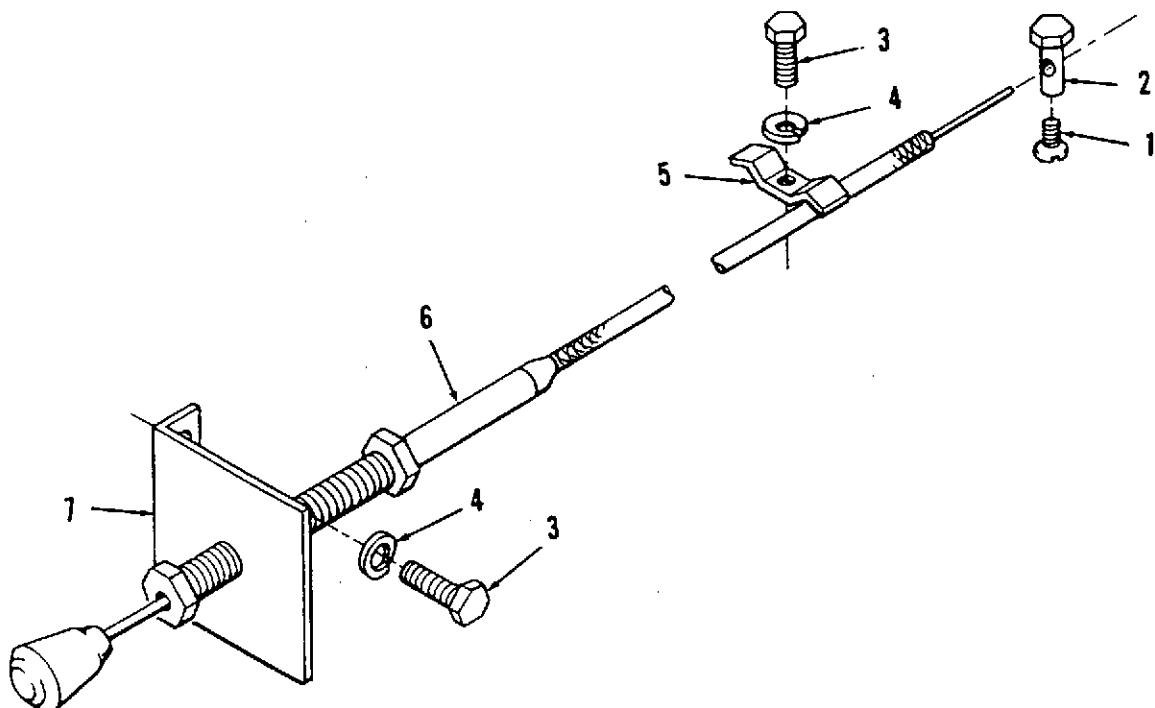
### Fuel Tank and Sub Base



FS1337

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	159-1100 800-0051	2	Strap, Hold Down	9	505-0247	1	Plug, Pipe - Socket Head
		4	Screw, Cap - Hex Head (3/8-16 x 1-1/4")	10	159-1101	1	Tank, Fuel
	526-0013	4	Washer, Flat (3/8")	11	403-1743	2	Plate, End
	850-0050	4	Washer, Lock - Spring (3/8")		800-0050	8	Screw, Cap - Hex Head (3/8-16 x 1")
	862-0003	4	Nut, Hex (3/8-16)		850-0050	8	Washer, Lock - Spring (3/8")
2	502-0297	1	Bushing, Reducer - Hex		862-0003	8	Nut, Hex (3/8-16)
3	501-0211	1	Line, Fuel	12	403-1896	1	Base, Sub
4	415-0317	1	Pipe, Suction		800-0156	6	Screw, Cap - Hex Head (3/4-10 x 2-1/4")
5	505-0334	1	Plug, Pipe - Square Head		850-0079	6	Washer, Lock - Spring (3/4")
6	501-0214	1	Line, Fuel		862-0020	6	Nut, Hex (3/4-10)
7	193-0216	1	Gauge				
8	159-0020	1	Cap, Tank				

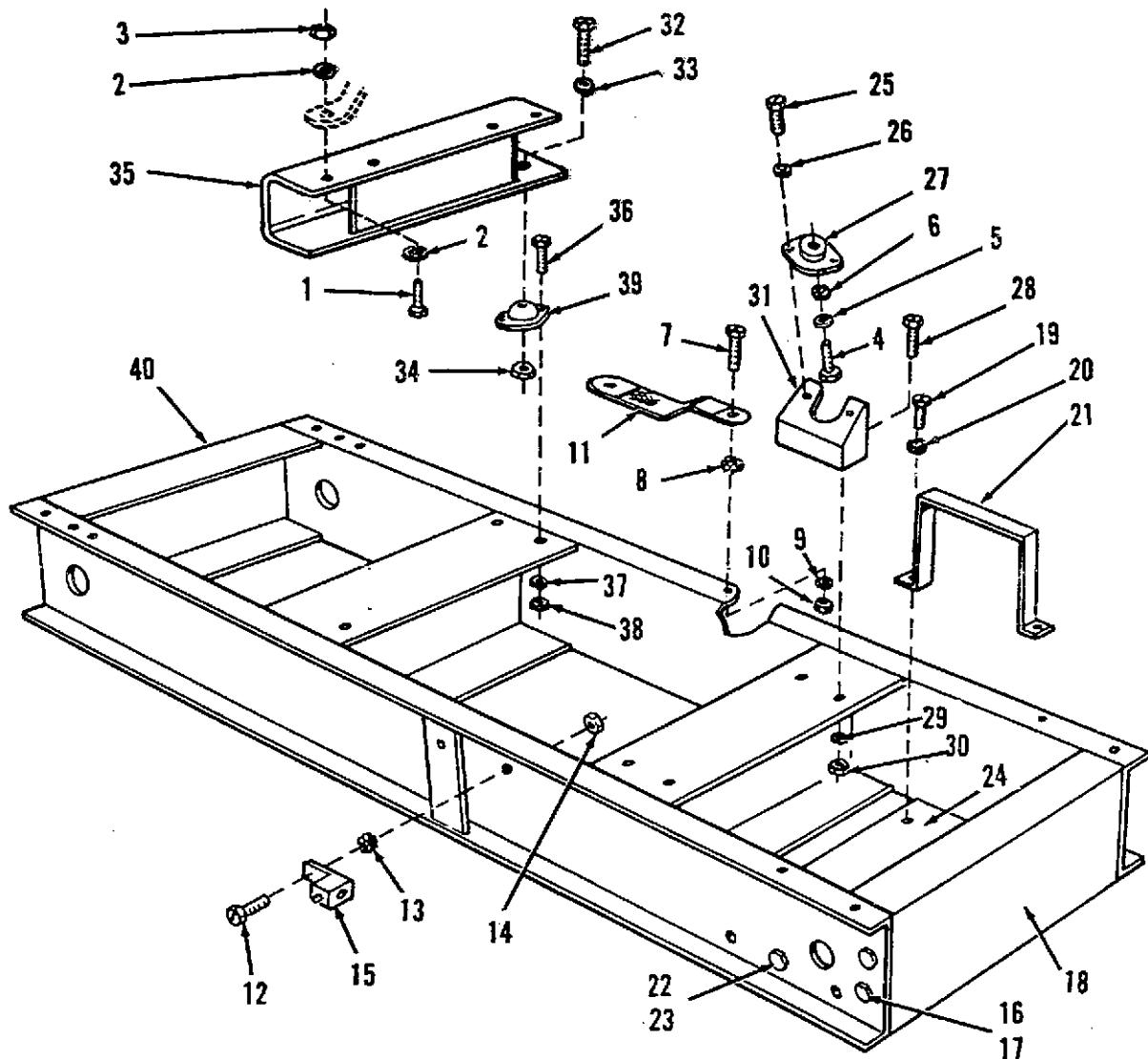
## Vernier Throttle



M1179

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	812-0075	1	Screw, Machine - Round Head (#8-32 x 1/2")	4	850-0040	3	Washer, Lock - Spring (1/4")
2	152-0158	1	Swivel	5	152-0036	1	Clamp, Cable
3	800-0005	3	Screw, Cap - Hex Head (1/4-20 x 3/4")	6	152-0120	1	Throttle, Vernier
				7	151-0230	1	Bracket, Mounting

## Chassis

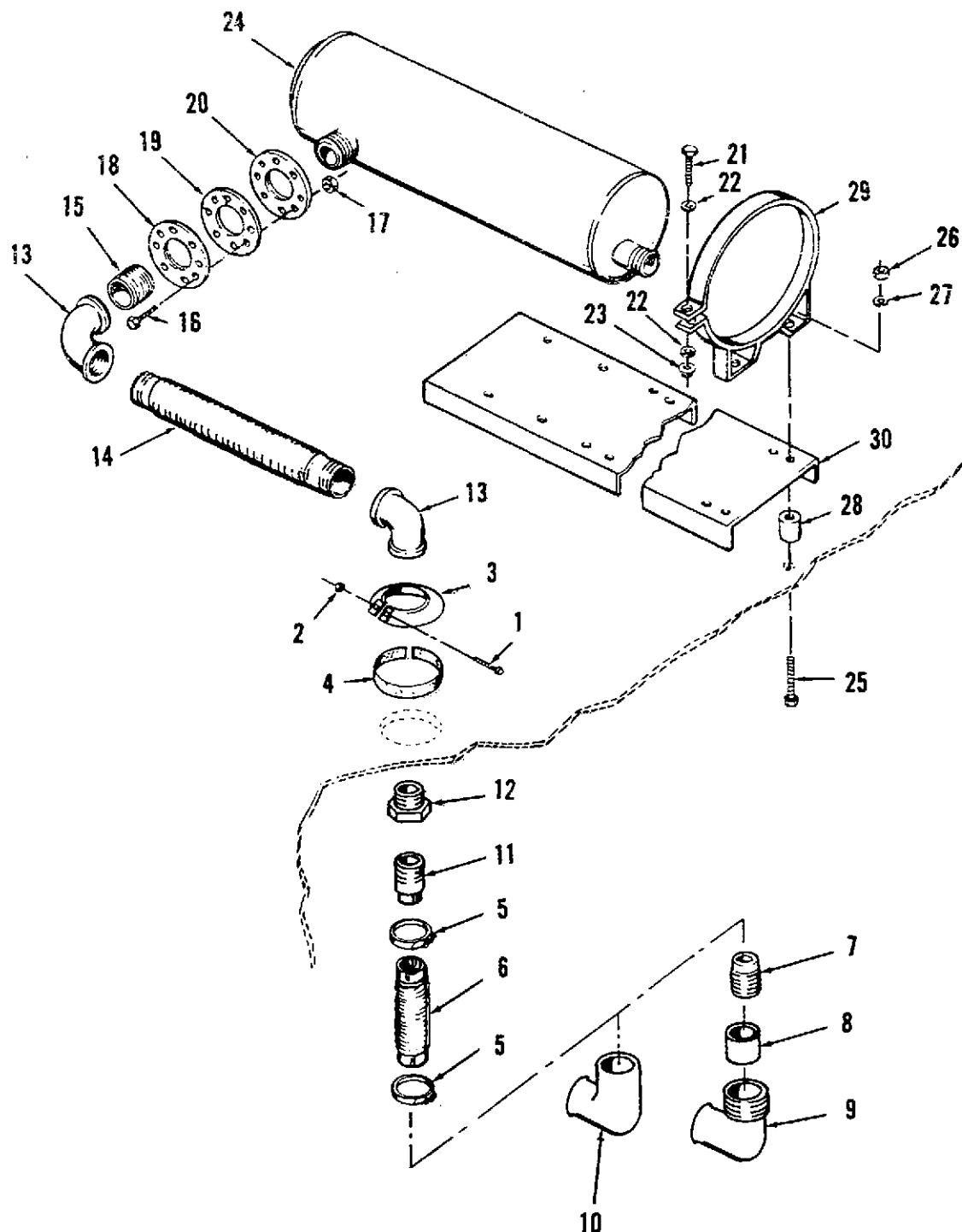


M1297

## Chassis

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	800-0132	2	Screw, Cap - Hex Head (5/8-11 x 1-1/2")	20	850-0045	4	Washer, Lock - Spring (5/16")
2	850-0070	2	Washer, Lock - Spring (5/8")	21	416-0635	2	Strap, Hold Down
3	862-0007	2	Nut, Hex (5/8-11)	22	821-0016	6	Screw, Self-locking - Hex (5/16-18 x 3/4")
4	800-0163	2	Screw, Cap - Hex Head (3/4-10 x 4")	23	870-0257	6	Nut, Self-locking - Hex (5/16-18)
5	526-0238	2	Washer, Flat (3/4")	24	416-0673	1	Tray, Battery
6	850-0079	2	Washer, Lock - Spring (3/4")	25	800-0090	4	Screw, Cap - Hex Head (1/2-13 x 1")
7	800-0092	1	Screw, Cap - Hex Head (1/2-13 x 1-1/2")	26	850-0060	4	Washer, Lock - Spring (1/2")
8	856-0013	1	Washer, Lock - EIT (1/2")	27	402-0384	2	Mount, Vibration
9	850-0060	1	Washer, Lock - Spring (1/2")	28	800-0132	4	Screw, Cap - Hex Head (5/8-11 x 1-1/2")
10	862-0016	1	Nut, Hex (1/2-13)	29	850-0070	4	Washer, Lock - Spring (5/8")
11	337-0090	1	Strap, Ground	30	862-0007	4	Nut, Hex (5/8-11)
12	800-0028	1	Screw, Cap - Hex Head (5/16-18 x 1")	31	862-0007	2	Bracket, Mounting
13	856-0002	1	Washer, Lock - EIT (5/16")	32	800-0153	2	Screw, Cap - Hex Head (3/4-10 x 1-1/2")
14	870-0257	1	Nut, Self-locking - Head (5/16-18)	33	850-0079	2	Washer, Lock - Spring (3/4")
15	332-1473	1	Lug, Terminal	34	862-0008	2	Nut, Hex (3/4-10)
16	821-0016	4	Screw, Self-locking - Hex (5/16-18 x 3/4")	35	403-0966	1	Support, Mounting
17	870-0257	4	Nut, Self-locking - Hex (5/16-18)	36	800-0091	4	Screw, Cap - Hex Head (1/2-13 x 1-1/4")
18	403-1198	1	Panel, End	37	850-0060	4	Washer, Lock - Spring (1/2")
19	800-0035	4	Screw, Cap - Hex Head (5/16-18 x 2-1/2")	38	862-0016	4	Nut, Hex (1/2-13)
				39	402-0371	2	Mount, Vibration
				40	403-1133	1	Base, Skid

**Exhaust Muffler  
Commercial**

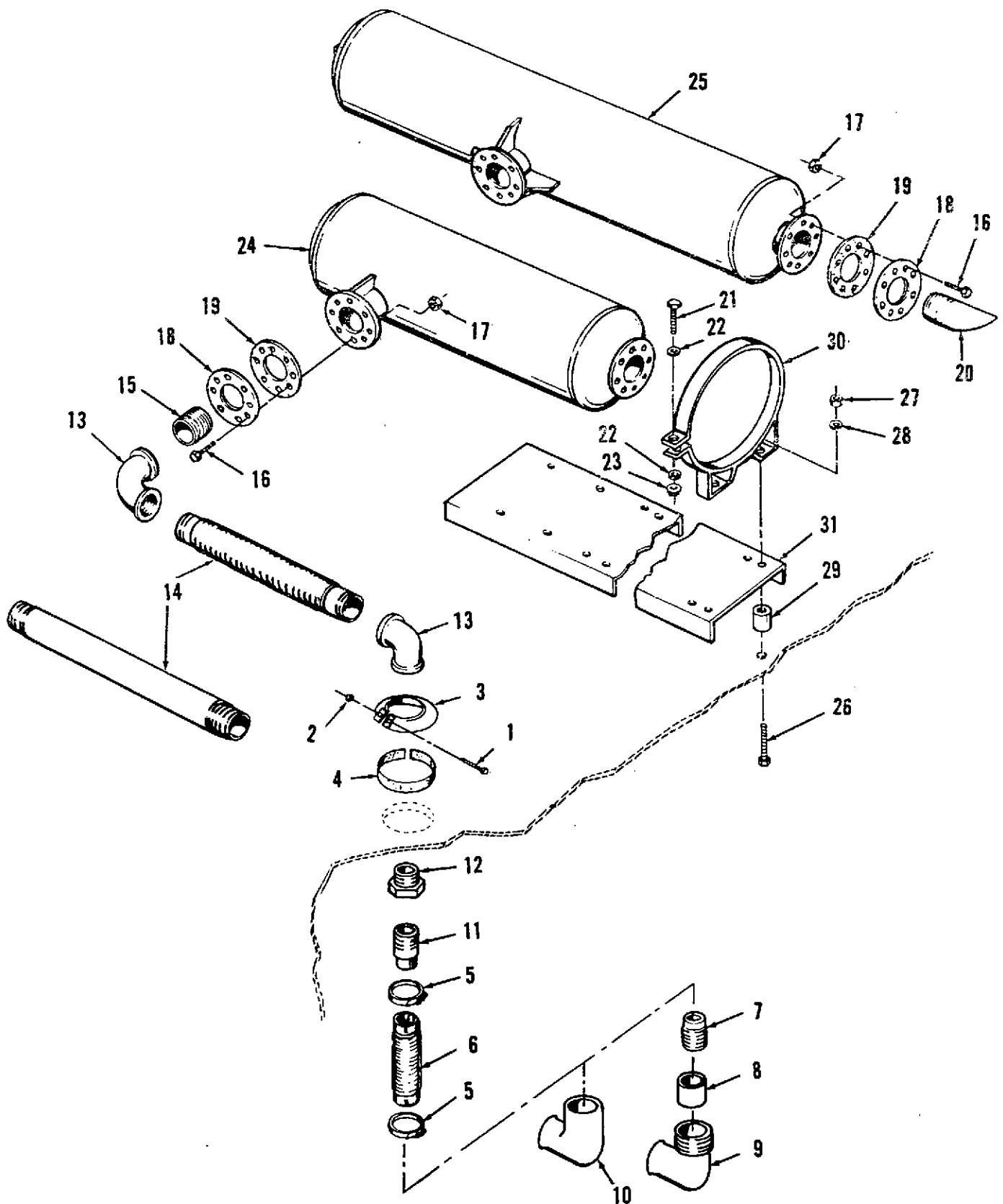


EXS1056

**Exhaust Muffler  
Commercial**

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	813-0105	2	Screw, Machine - Round Head (#10-32 x 1")	14	155-1160	1	Tube, Exhaust Standard
2	870-0188	2	Nut, Self-locking - Hex (#10-32)	15	155-1184	1	Stainless Steel
3			Shield, Rain	16	505-0740	1	Nipple, Pipe - Short
	155-1425	1	Standard	17	800-0160	8	Screw, Cap - Hex Head (3/4-10 x 3-1/4")
	155-1639	1	Stainless Steel	18	862-0008	8	Nut, Hex (3/4-10)
4	895-0163	1	Strip, Asbestos	19	155-0652	1	Flange, Companion - Pipe
5	503-0605	2	Clamp	20	155-0676	1	Gasket
6			Tube, Exhaust - Stainless Steel	21	155-0652	1	Flange, Companion - Pipe
	155-1143	1	10"	22	800-0037	3	Screw, Cap - Hex Head (5/16-18 x 3")
	155-1603	1	13"	23	526-0113	6	Washer, Flat (5/16")
	155-1456	1	16"	24	870-0257	3	Nut, Self-locking - Hex (5/16-18)
	155-1299	1	21"	25	155-1158	1	Muffler, Exhaust
	155-1293	1	33"	26	800-0037	6	Screw, Cap - Hex Head (5/16-18 x 3")
7	155-1275	1	Connector, Tube	27	870-0048	6	Nut, Self-locking - Hex (5/16-18)
8	505-0784	1	Coupling, Pipe	28	850-0045	6	Washer, Lock - Spring (5/16")
9	155-1035	1	Elbow, Pipe	29	155-1430	6	Spacer
10	155-1736	1	Elbow, Tube	30	140-0757	3	Band, Mounting
11			Connector, Tube		155-1404	1	Shield, Heat
	155-1275	1	6"				
	155-1929	1	17"				
12	505-0695	1	Bushing, Reducer - Hex				
13	505-0741	2	Elbow, Pipe - 90 Degree				

**Exhaust Muffler  
Residential and Critical**

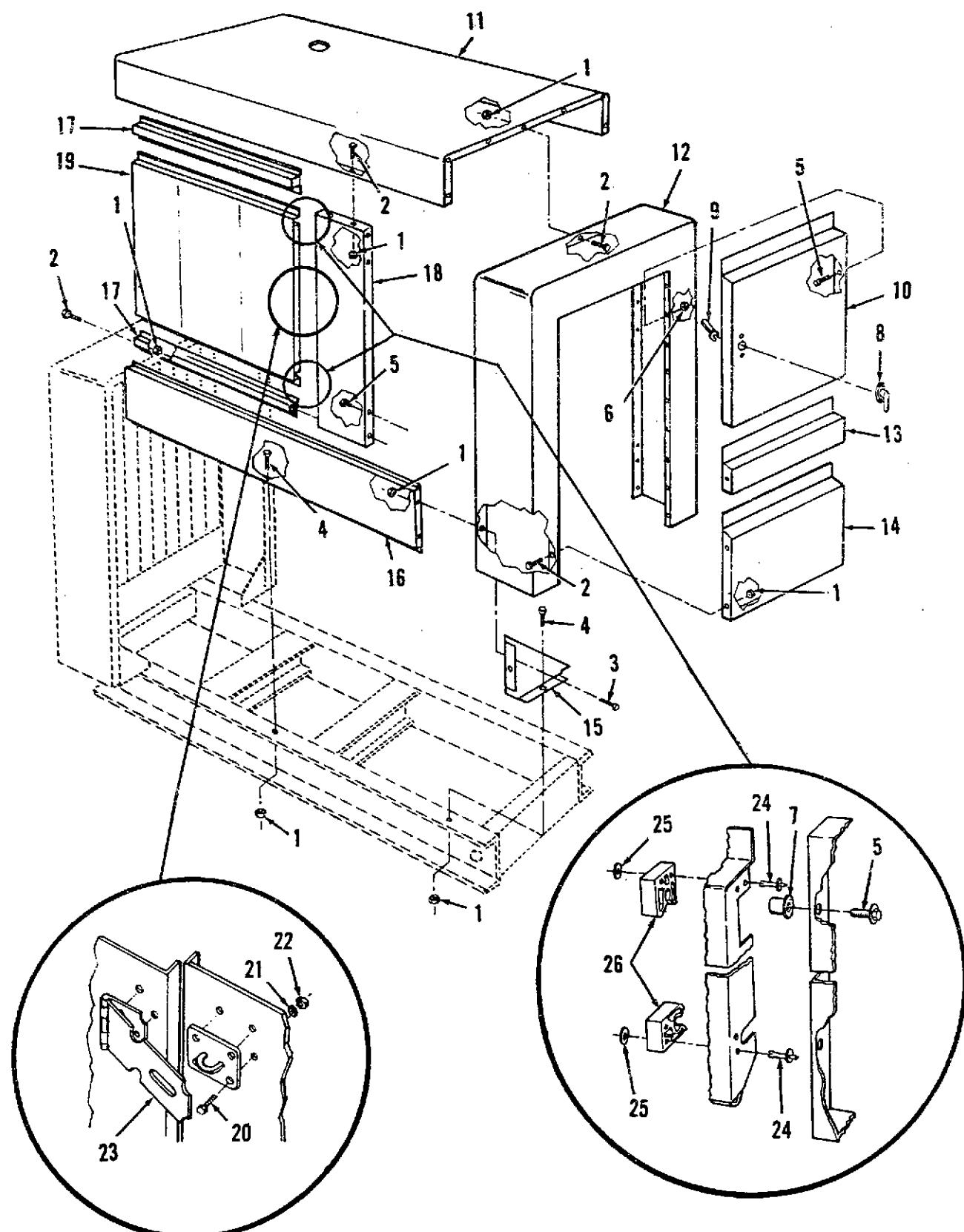


EXS1057

**Exhaust Muffler**  
**Residential and Critical**

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	813-0105	2	Screw, Machine - Round Head (#10-32 x 1")	16	800-0160	16	Screw, Cap - Hex Head (3/4-10 x 3-1/4")
2	870-0188	2	Nut, Self-locking - Hex (#10-32)	17	862-0008	16	Nut, Hex (3/4-10)
3			Shield, Rain	18	155-0652	2	Flange, Companion - Pipe
	155-1425	1	Standard	19	155-0676	2	Gasket
	155-1639	1	Stainless Steel	20	505-0785	1	Nipple, Pipe - Modified
4	895-0163	1	Strip, Asbestos	21	800-0037	3	Screw, Cap - Hex Head (5/16-18 x 3")
5	503-0605	2	Clamp	22	526-0113	6	Washer, Flat (5/16")
6			Tube, Exhaust - Stainless Steel	23	870-0257	3	Nut, Self-locking - Hex (5/16-18)
	155-1143	1	10"	24			Muffler, Exhaust - Residential
	155-1603	1	13"		155-1605	1	Standard
	155-1456	1	16"		155-1727	1	Stainless Steel
	155-1299	1	21"	25			Muffler, Exhaust - Critical
	155-1493	1	22-1/2"		155-1568	1	Standard
	155-1293	1	33"		155-1728	1	Stainless Steel
7	155-1275	1	Connector, Tube	26	800-0037	6	Screw, Cap - Hex Head (5/16-18 x 3")
8	505-0784	1	Coupling, Pipe	27	870-0048	6	Nut, Self-locking - Hex (5/16-18)
9	155-1035	1	Elbow, Pipe	28	850-0045	6	Washer, Lock - Spring (5/16")
10	155-1736	1	Elbow, Tube	29	155-1430	6	Spacer
11			Connector, Tube	30			Band, Mounting
	155-1275	1	6"		140-0751	3	Standard
	155-1929	1	17"		140-1685	3	Stainless Steel
12	505-0695	1	Bushing, Reducer - Hex	31			Shield, Heat
13	505-0741	2	Elbow, Pipe - 90 Degree		155-1400	1	Standard, 67"
14			Tube, Exhaust		155-1729	1	Stainless Steel, 67"
	155-1604	1	Tube, 38"		155-1602	1	Standard, 94"
	155-1619	1	Tube, 55"		155-1730	1	Stainless Steel, 94"
	505-0939	1	Pipe, 43"				
15	505-0740	1	Nipple, Pipe - Short				

### Set Housing



M1004

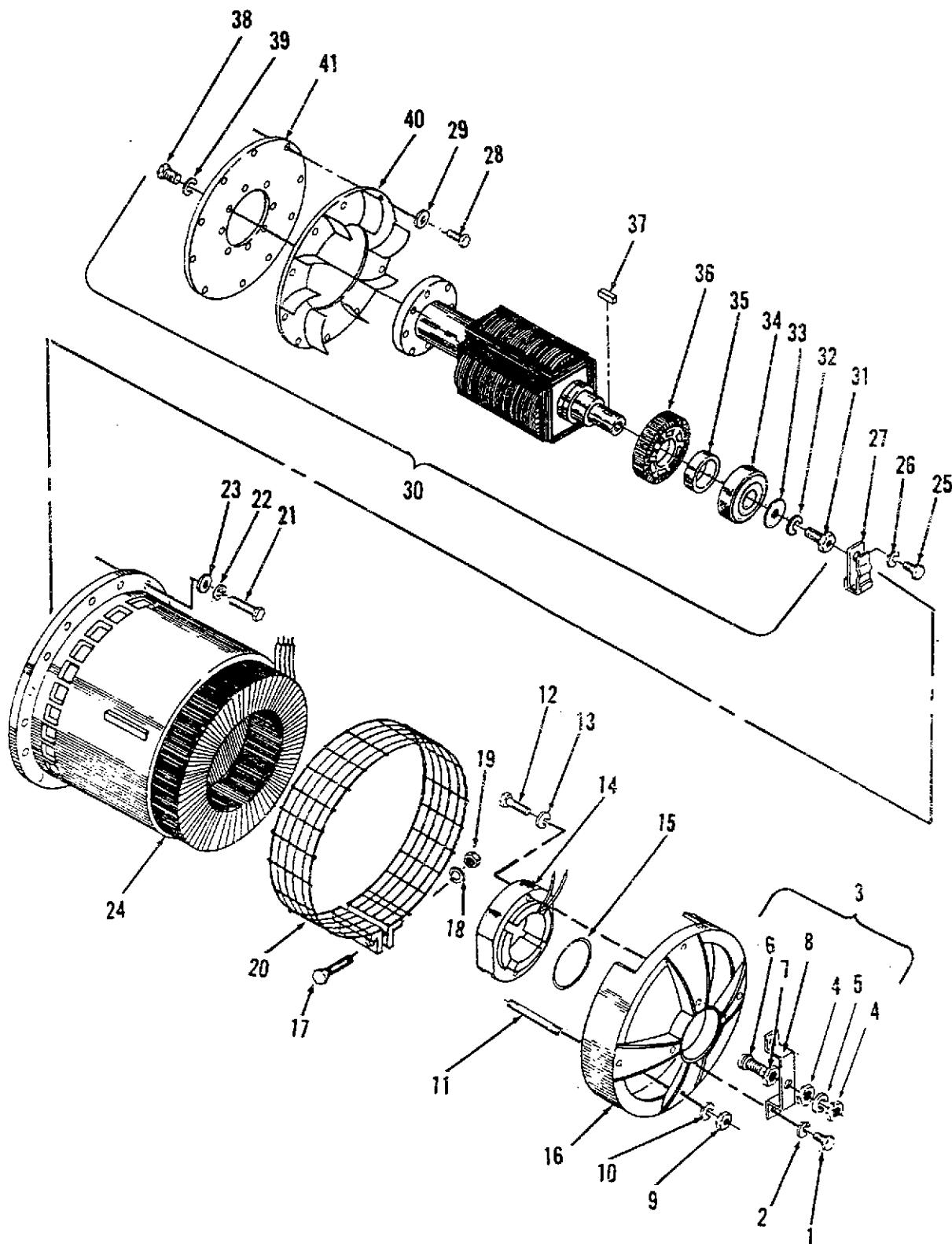


**Cummins**  
**Power  
Generation**

## Set Housing

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	870-0257	62	Nut, Self-locking - Hex (5/16-18)	11	405-2222	1	Panel, Top
2	821-0014	48	Screw, Self-locking - Hex (5/16-18 x 1/2")	12	405-1883	1	Panel, Rear
3	821-0016	8	Screw, Self-locking - Hex (5/16-18 x 3/4")	13	405-1858	2	Panel, Louver - Rear
4	800-0030	6	Screw, Cap - Hex Head (5/16-18 x 1-1/4")	14	405-1856	1	Panel, Lower - Rear
5	821-0010	20	Screw, Self-locking - Hex (1/4-20 x 1/2")	15	405-2016	4	Bracket, Mounting
6	870-0212	4	Nut, Self-locking - Hex (1/4-20)	16	405-2221	2	Panel, Base
7	870-0258	16	Nut, Weld	17	405-2014	8	Panel, Louver
8	406-0157	1	Handle, Lock	18	405-2220	2	Panel, Center
9	406-0089	1	Catch	19	405-2011	4	Door
10	405-1880	1	Door, Rear	20	814-0079	28	Screw, Machine - Flat Head (#8-32 x 1/2")
				21	850-0025	28	Washer, Lock - Spring (#8)
				22	860-0008	28	Nut, Hex (#8-32)
				23	406-0249	4	Set, Hasp
				24	818-0150	32	Rivet, Drive Pin
				25	526-0003	32	Washer, Flat (3/16")
				26	405-1872	16	Clip, Pivot - Door

**Generator**  
**155 kW 60 Hz; 130 kW 50 Hz**

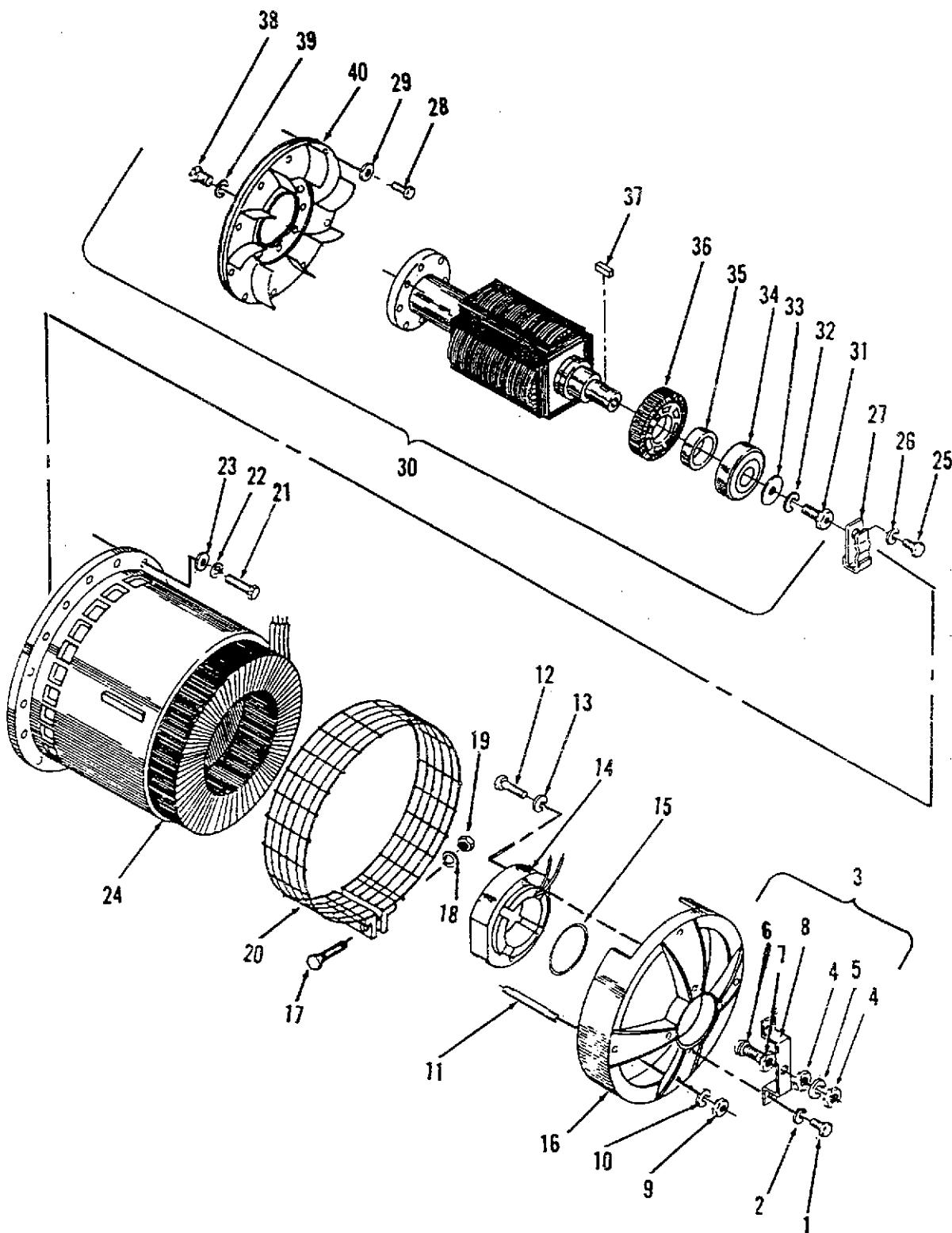


G1116-1

**Generator**  
**155 kW 60 Hz; 130 kW 50 Hz**

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	800-0003	2	Screw, Cap - Hex Head (1/4-20 x 1/2")	25	800-0048	1	Screw, Cap - Hex Head (3/8-16 x 3/4")
2	800-0009	2	Screw, Cap - Hex Head (1/4-20 x 1-1/2")	26	856-0010	1	Washer, Lock - EIT (3/8")
3	150-1456	1	Contact Assembly - Overspeed Switch (Includes Contact and Mounting Bracket)	27	150-0717	1	Switch, Overspeed
4	862-0001	2	Nut, Hex (1/4-20)	28	805-0032	8	Bolt, Hex Head - Grade 8 (1/2-13 x 1-1/4")
5	853-0013	1	Washer, Lock - ET (1/4")	29	526-0028	8	Washer, Flat (1/2")
6	150-0723	1	Contact, Electrical	30			Rotor Assembly, Generator (Includes Fan, Drive Disk, Bearing, Exciter Rotor)
7	870-0250	1	Nut, Insulated	201-2680		1	Code 6D, 9X, 15
8	150-1356	1	Bracket, Mounting - Contact	201-2698		1	Code 15 Environmental Protected
9	862-0011	4	Nut, Hex - Grade 8 (3/8-16)	31	800-0513	1	Code 515
10	850-0050	4	Washer, Lock - Spring (3/8")	32	850-0079	1	Screw, Cap - Hex Head (Modified With Tapped Hole)
11	520-0735	4	Stud (3/8-16 x 5-3/4")	33	526-0238	1	Washer, Lock - Spring (3/4")
12	800-0009	4	Screw, Cap - Hex Head (1/4-20 x 1-1/2")	34	510-0101	1	Washer, Flat (3/4")
13	850-0040	4	Washer, Lock - Spring (1/4")	35	232-2102	1	Bearing, Ball
14			Stator, Exciter	36			Spacer, Sleeve
	220-2353	1	Standard				Rotor, Assembly - Exciter (See Separate Page for Components)
	220-1774	1	Environmental Protected				Standard
15	509-0125	1	Seal, Oil - "O" Ring	201-1739		1	Environmental Protected
16	211-0185	1	Bell, End	201-1845		1	Key, Machine
17	800-0009	2	Screw, Cap - Hex Head (1/4-20 x 1-1/2")	37	515-0145	1	Bolt, Hex Head - Grade 8 (5/8-11 x 1-1/2")
18	850-0040	2	Washer, Lock - Spring (1/4")	38	805-0035	8	Washer, Flat - Hardened Steel (5/8")
19	862-0001	2	Nut, Hex (1/4-20)	39	526-0259	8	Fan, Cooling - Generator
20	234-0368	1	Screen, Air	40	205-0095	1	Disk, Drive - Generator
21	800-0073	12	Screw, Cap - Hex Head (7/16-14 x 1-1/2")	41	232-2037	1	
22	850-0055	12	Washer, Lock - Spring (7/16")				
23	526-0032	12	Washer, Flat (7/16")				
24			Stator Assembly, Generator				
	220-2640	1	Code 6D				
	220-1613	1	Code 9X				
	220-1518	1	Code 15				
	220-1779	1	Code 15 Environmental Protected				
	220-1990	1	Code 515				

**Generator**  
**180/175 kW 60 Hz; 150 kW 50 Hz**



G1116-2

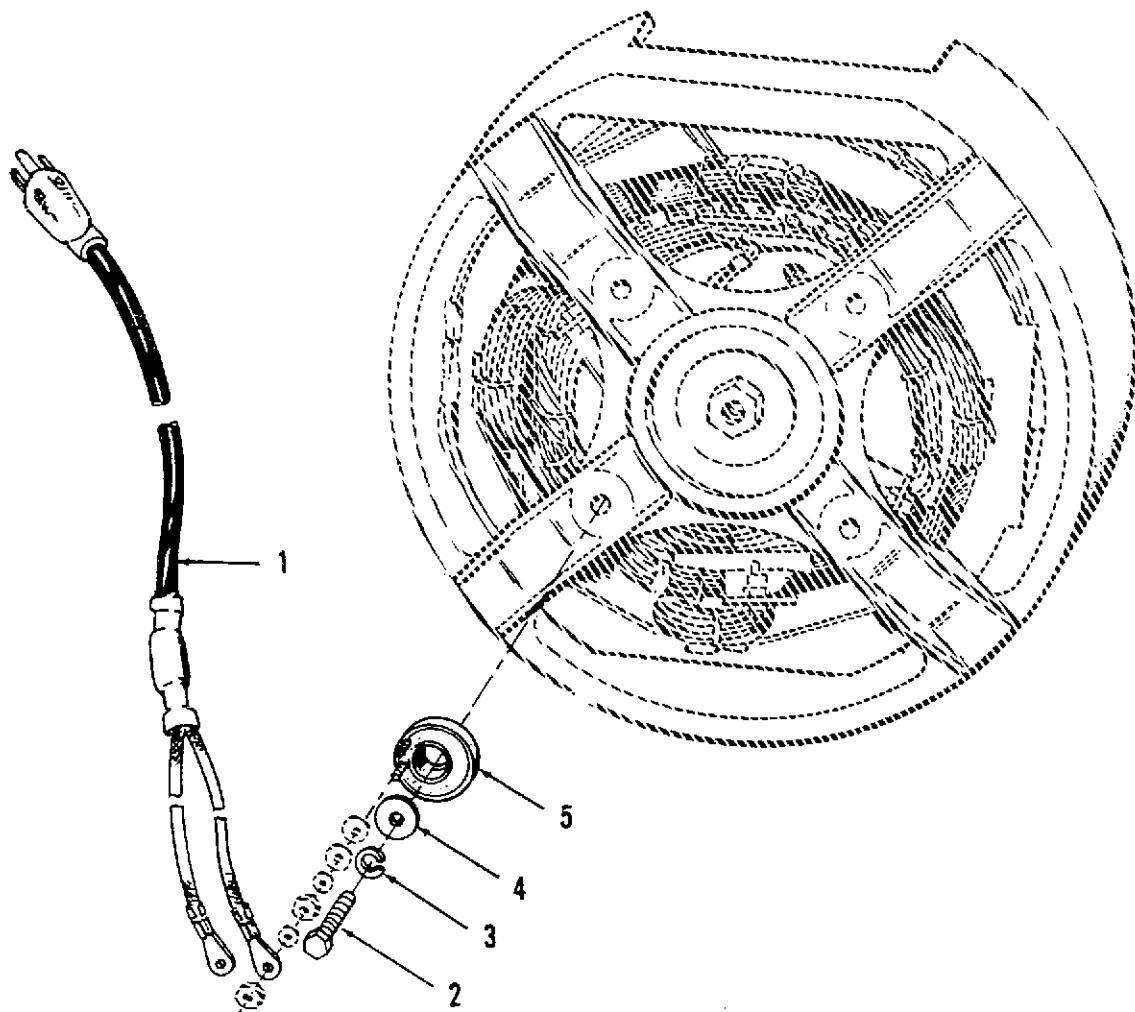


**Cummins**  
**Power  
Generation**

**Generator**  
**180/175 kW 60 Hz; 150 kW 50 Hz**

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	600-0003	2	Screw, Cap - Hex Head (1/4-20 x 1 1/2")	25	800-0048	1	Screw, Cap - Hex Head (3/8-16 x 3/4")
2	800-0009	2	Screw, Cap - Hex Head (1/4-20 x 1-1/2")	26	856-0010	1	Washer, Lock - EIT (3/8")
3	150-1456	1	Contact Assembly - Overspeed Switch (Includes Contact and Mounting Bracket)	27	150-0717	1	Switch, Overspeed
4	862-0001	2	Nut, Hex (1/4-20)	28	805-0032	8	Bolt, Hex Head - Grade 8 (1/2-13 x 1-1/4")
5	853-0013	1	Washer, Lock - ET (1/4")	29	526-0028	8	Washer, Flat (1/2")
6	150-0723	1	Contact, Electrical	30			Rotor Assembly, Generator (Includes Disk and Fan Assembly, Bearing, Exciter Rotor)
7	870-0250	1	Nut, Insulated	201-2478		1	Code 6D, 9X, 15
8	150-1356	1	Bracket, Mounting - Contact	201-2536		1	Code 15 Environmental Protected
9	862-0011	4	Nut, Hex - Grade 8 (3/8-16)	201-2478		1	Code 515
10	850-0050	4	Washer, Lock - Spring (3/8")	201-2536		1	Code 515 Environmental Protected
11	520-0735	4	Stud (3/8-16 x 5-3/4")				
12	800-0009	4	Screw, Cap - Hex Head (1/4-20 x 1-1/2")	31	800-0513	1	Screw, Cap - Hex Head (Modified With Tapped Hole)
13	850-0040	4	Washer, Lock - Spring (1/4")	32	850-0079	1	Washer, Lock - Spring (3/4")
14	220-2353	1	Stator, Exciter Standard	33	526-0238	1	Washer, Flat (3/4")
	220-1774	1	Environmental Protected	34	510-0101	1	Bearing, Ball
15	509-0125	1	Seal, Oil - "O" Ring	35	232-2102	1	Spacer, Sleeve
16	211-0185	1	Bell, End	36			Rotor, Assembly - Exciter (See Separate Page for Components)
17	800-0009	2	Screw, Cap - Hex Head (1/4-20 x 1-1/2")				Standard
18	850-0040	2	Washer, Lock - Spring (1/4")	201-1739		1	Environmental Protected
19	862-0001	2	Nut, Hex (1/4-20)	201-1845		1	Key, Machine
20	234-0368	1	Screen, Air	37	515-0145	1	Bolt, Hex Head - Grade 8 (5/8-11 x 1-1/2")
21	800-0073	12	Screw, Cap - Hex Head (7/16-14 x 1-1/2")	38	805-0035	8	Washer, Flat - Hardened Steel (5/8")
22	850-0055	12	Washer, Lock - Spring (7/16")	39	526-0259	8	Disk and Fan Assembly (Matched Pair)
23	526-0032	12	Washer, Flat (7/16")				
24			Stator Assembly, Generator	40	232-2898		
	220-2641	1	Code 6D				
	220-1614	1	Code 9X				
	220-1519	1	Code 15				
	220-1780	1	Code 15 Environmental Protected				
	220-1991	1	Code 515				
	220-2261	1	Code 515 Environmental Protected				

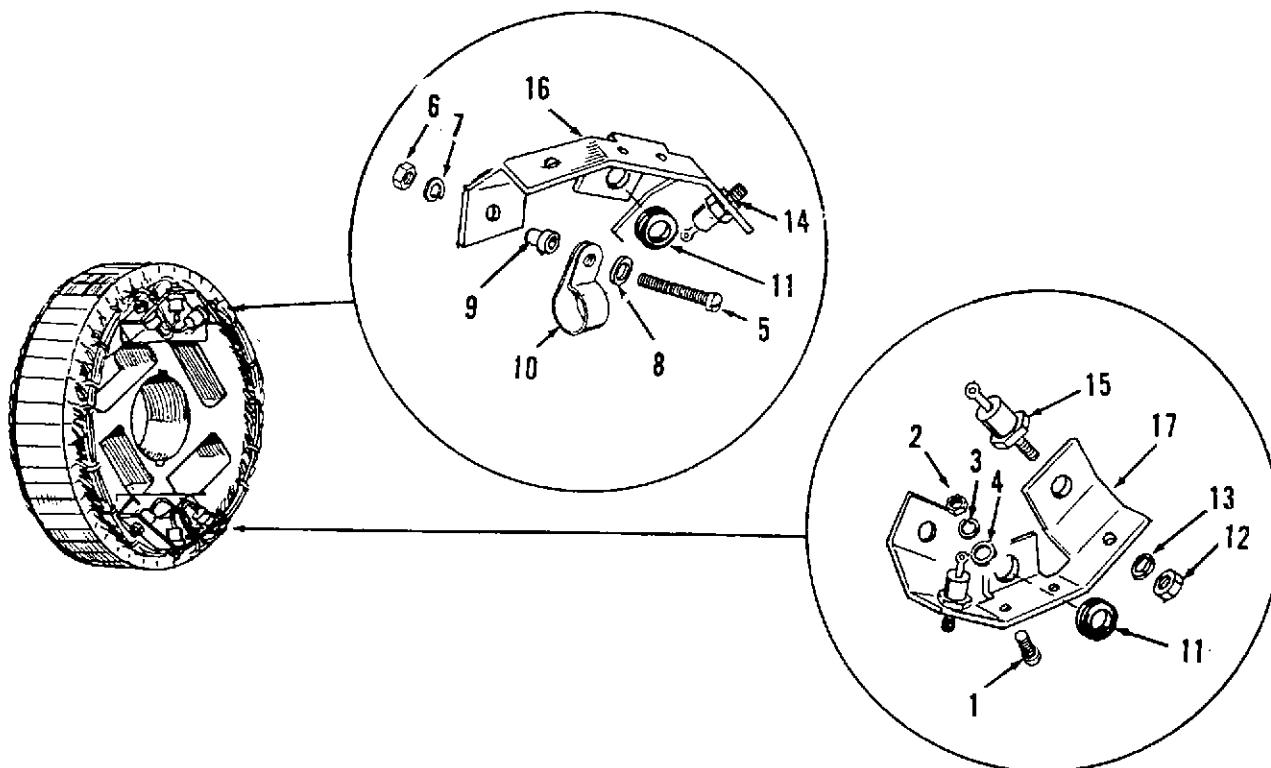
## Generator Heater



G1085

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1			Cable, Electrical (Includes Thermostat)	3	850-0038	1	Washer, Lock - Spring (1/4")
335-0146	335-0147	1	120 VAC	4	526-0158	1	Washer, Flat (1/4")
2	800-0004	1	240 VAC	5	333-0059	1	Heater, Electrical
		1	Screw, Cap - Hex Head (1/4-20 x 5/8")		333-0192	1	125 Watt, 120 VAC
						1	200 Watt, 240 VAC

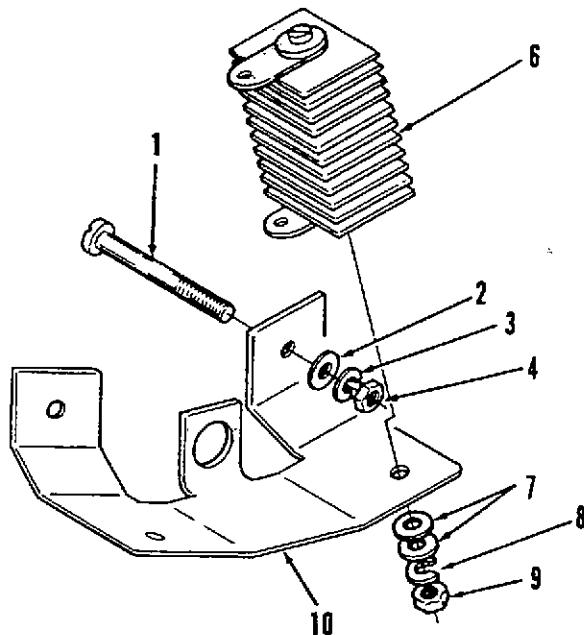
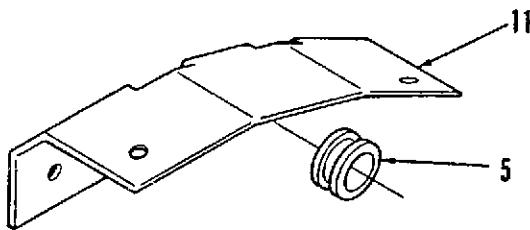
## Exciter Rotor Components



G1030-1

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
			Rotor, Exciter (Includes Heat Sinks and Diodes)	9	508-0187	4	Spacer, Stepped
			Standard	10	332-0050	2	Clamp, Loop
			Environmental Protected	11	508-0093	2	Grommet
1	813-0100	2	Screw, Machine - Round Head (#10-32 x 1/2")	12	870-0053	6	Nut, Hex (#10-32)
2	870-0053	2	Nut, Hex (#10-32)	13	850-0030	6	Washer, Lock - Spring (#10)
3	850-0030	2	Washer, Lock - Spring (#10)	14			Rectifier, Diode - Positive (CR1, CR2, CR3)
4	526-0008	2	Washer, Flat (#10)	15	358-0097	3	Standard
5	813-0110	4	Screw, Machine - Round Head (#10-32 x 2")	15	358-0044	3	Environmental Protected
6	870-0053	4	Nut, Hex (#10-32)	15	358-0096	3	Rectifier, Diode - Negative (CR4, CR5, CR6)
7	850-0030	4	Washer, Lock - Spring (#10)	15	358-0043	3	Standard
8	526-0009	4	Washer, Flat (#10)	16	363-0054	1	Environmental Protected
				17	363-0055	1	Sink, Heat
							Sink, Heat

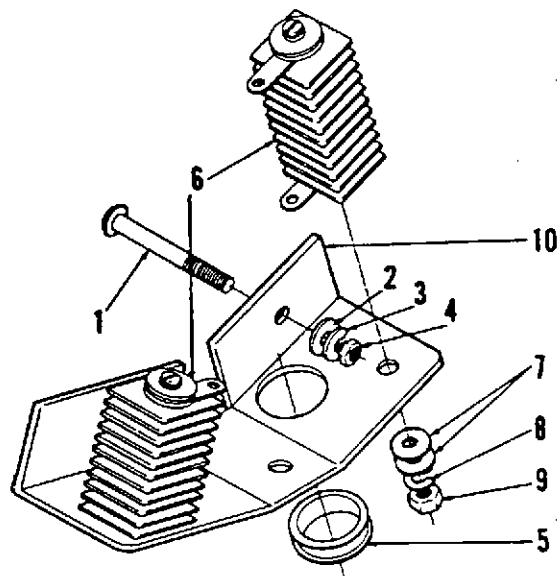
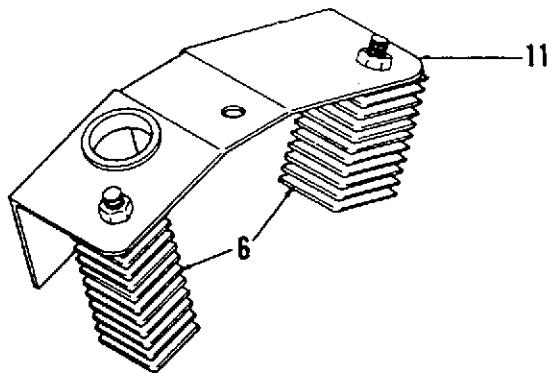
## Voltage Suppressor Components



XES1229

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	232-2445 813-0112	1 4	Suppressor, Voltage Screw, Machine - Round Head (#10-32 x 2-1/2")	6	305-0526 526-0140	1 4	Set, Voltage Suppressor Washer, Flat (#10)
2	526-0140	4	Washer, Flat (#10)	7	850-0030	4	Washer, Lock - Spring (#10)
3	850-0030	4	Washer, Lock - Spring (#10)	8	870-0053	4	Nut, Hex (#10-32)
4	870-0053	4	Nut, Hex (#10-32)	9	363-0054	1	Sink, Heat
5	508-0093	2	Grommet	10	363-0055	1	Sink, Heat

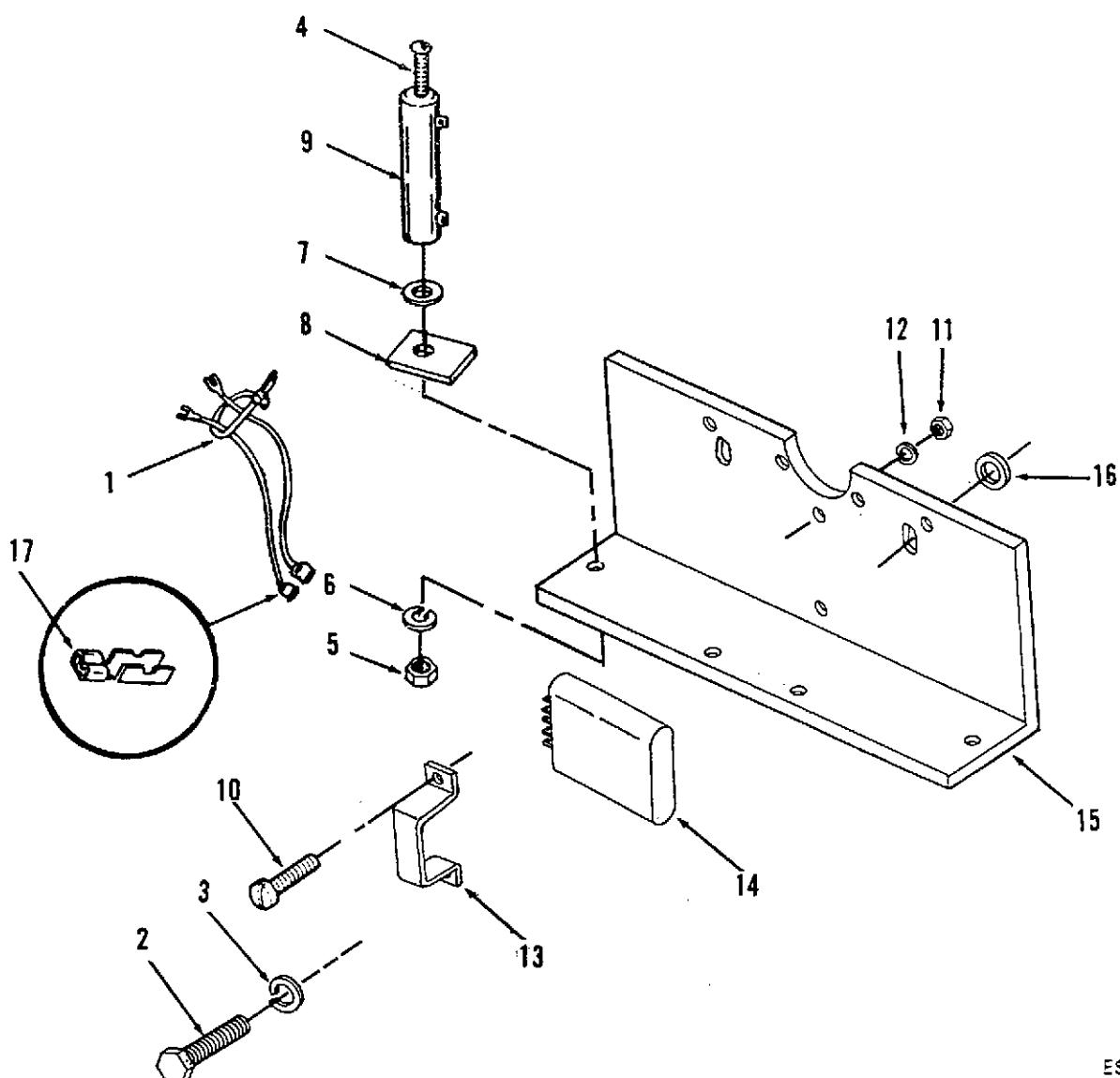
## Dual Voltage Suppressor Components



XES1230

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	232-2639 813-0112	1 8	Suppressor, Voltage - Dual Screw, Machine - Round Head (#10-32 x 2-1/2")	6	305-0526 526-0140	2 8	Set, Voltage Suppressor Washer, Flat (#10)
2	526-0140	8	Washer, Flat (#10)	7	850-0030	8	Washer, Lock - Spring (#10)
3	850-0030	8	Washer, Lock - Spring (#10)	8	870-0053	8	Nut, Hex (#10-32)
4	870-0053	8	Nut, Hex (#10-32)	10	363-0025	1	Sink, Heat
5	508-0093	2	Grommet	11	363-0033	1	Sink, Heat

## Voltage Regulator Filter



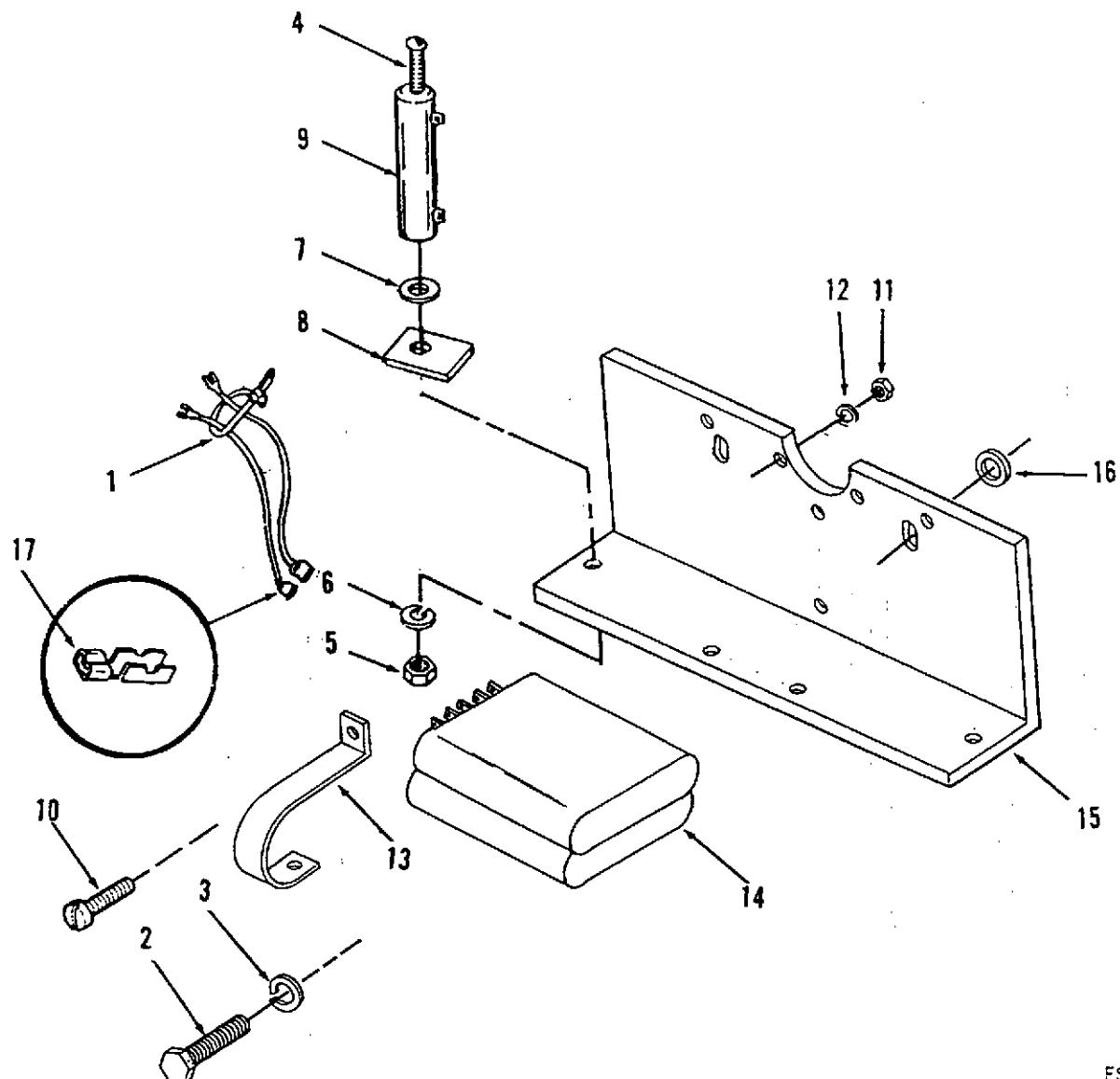
ES1115-1

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	332-0941	5	Tie, Cable	10	813-0098	2	Screw, Machine - Round Head (#10-32 x 3/8")
2	800-0003	2	Screw, Cap - Hex Head (1/4-20 x 1/2")	11	870-0053	2	Nut, Hex (#10-32)
3	850-0040	2	Washer, Lock - Spring (1/4")	12	850-0030	2	Washer, Lock - Spring (#10)
4	812-0165	2	Screw, Machine - Round Head (1/4-20 x 4-1/2")	13	312-0189	1	Bracket, Mounting
5	862-0001	2	Nut, Hex (1/4-20)	14	312-0188	1	Capacitor
6	850-0040	2	Washer, Lock - Spring (1/4")	15	232-2218	1	Bracket
7	304-0427	2	Washer, Centering	16	526-0018	15	Washer, Flat (1/4")
8	304-0292	2	Insulator	17	332-0529	4	Terminals
9	354-0025	1	Resistor		332-1279	8	Bare
							Insulated



**Cummins**  
**Power  
Generation**

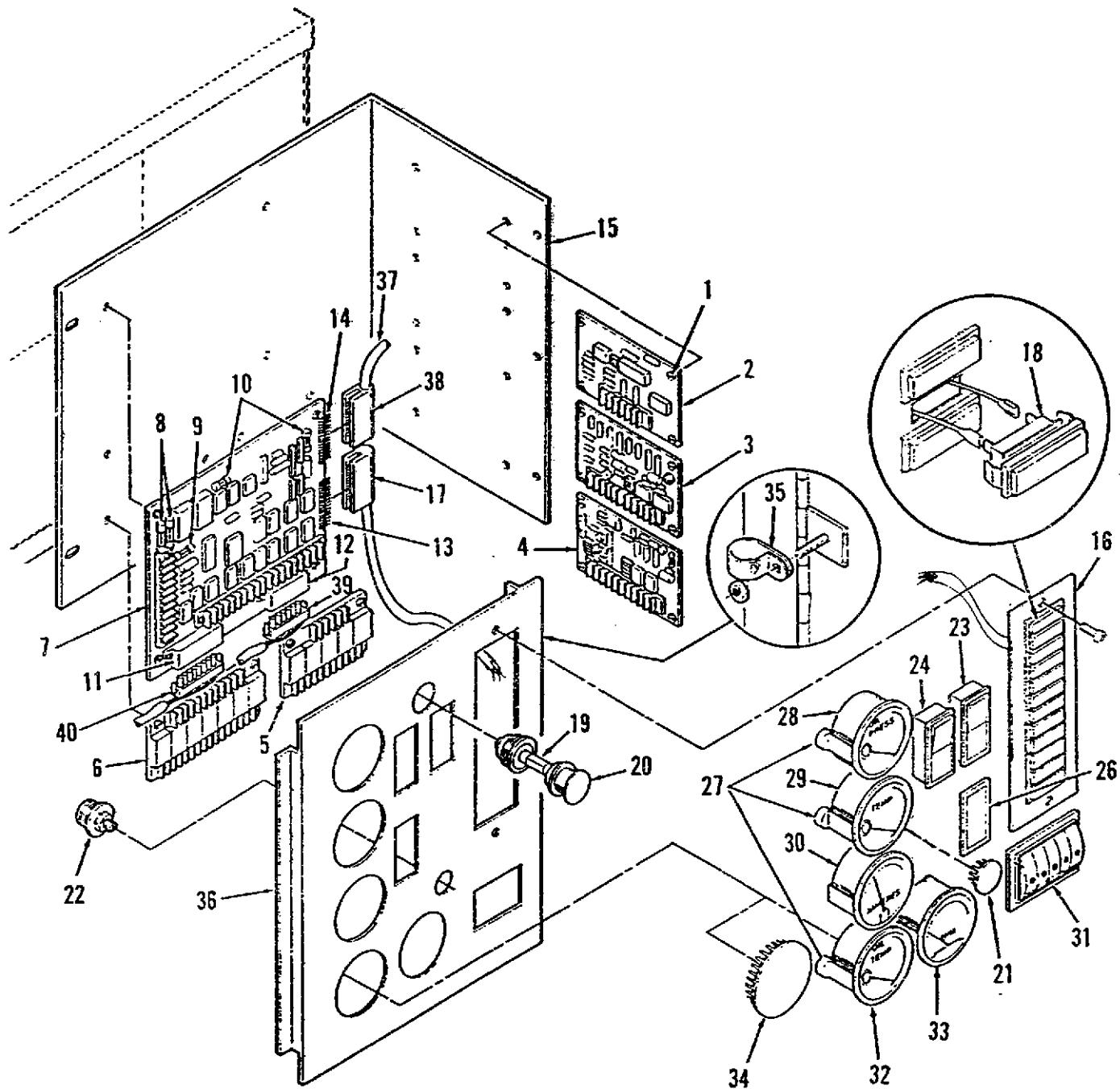
**Voltage Regulator Filter**  
**Heavy Duty**



ES1115-2

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	332-0941	5	Tie, Cable	10	813-0098	4	Screw, Machine - Round Head (#10-32 x 3/8")
2	800-0003	2	Screw, Cap - Hex Head (1/4-20 x 1/2")	11	870-0053	4	Nut, Hex (#10-32)
3	850-0040	2	Washer, Lock - Spring (1/4")	12	850-0030	4	Washer, Lock - Spring (#10)
4	812-0165	2	Screw, Machine - Round Head (1/4-20 x 4-1/2")	13	370-0007	2	Strap, Mounting
5	862-0001	2	Nut, Hex (1/4-20)	14	312-0188	2	Capacitor
6	850-0040	2	Washer, Lock - Spring (1/4")	15	232-2218	1	Bracket
7	304-0427	2	Washer, Centering	16	526-0018	15	Washer, Flat (1/4")
8	304-0292	2	Insulator	17	332-0529	8	Terminals Bare
9	354-0025	1	Resistor		332-1279	16	Insulated

Engine Control  
Begin Spec M



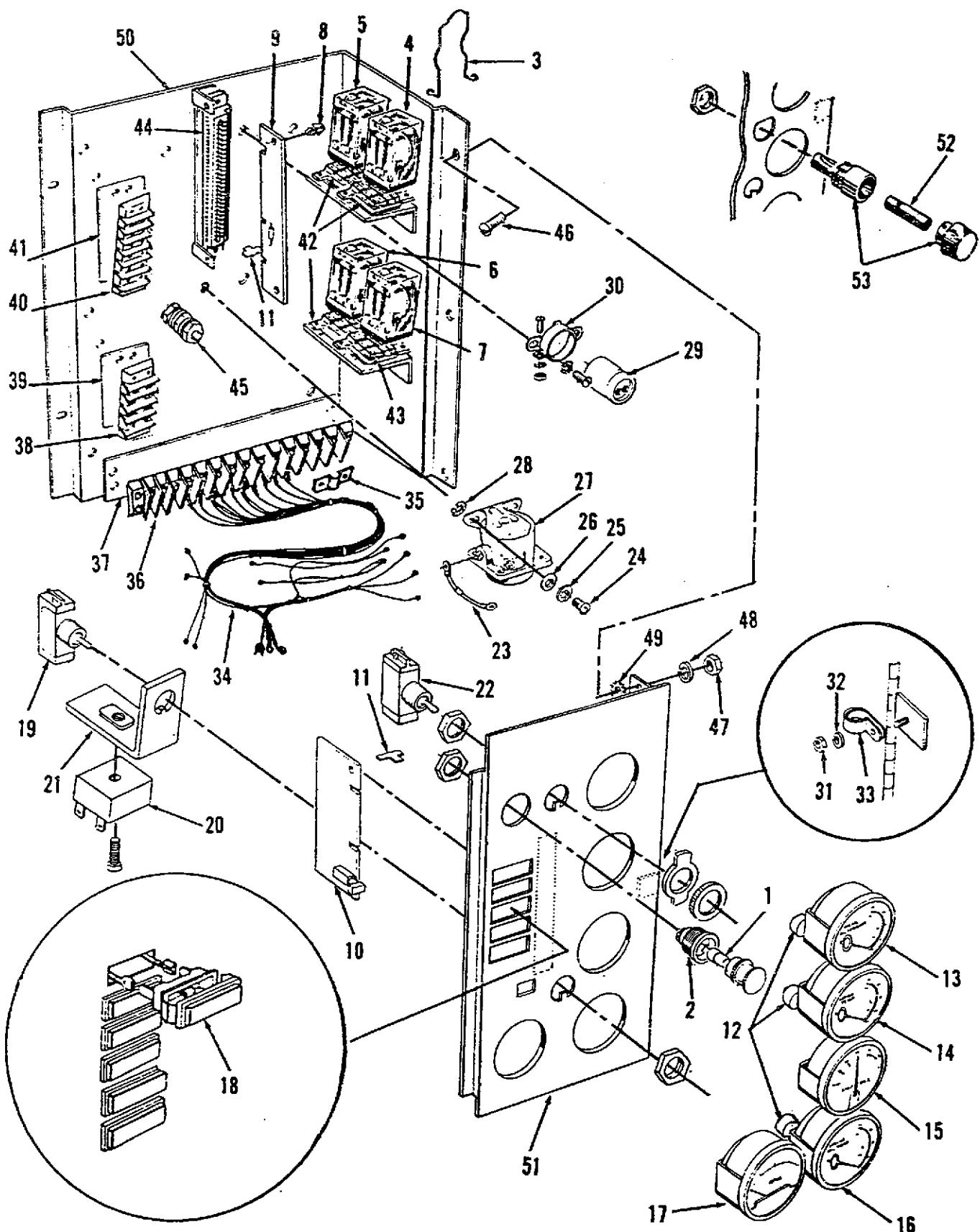
59C

**Engine Control**  
**Begin Spec M**

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	815-0544	24	Screw, Machine - Round Head With IT Lock Washer (#6-32 x 1/2")	17	323-1310	1	Housing, 13 Pin (J3)
					323-1302	13	Contact, Pin
2	300-2900	1	Board, Time Delay, Start/Stop - 24 VDC (A15)	18	322-0369-02	1	Lamp, Incandescent - 1/3 Watt, 28 VDC
3			Board, Magnetic Sensor, Start Disconnect/Over Speed Sensor (A16)	19	322-0017	1	Lamp, Incandescent - 28 VDC (DS11)
300-2903	1		Standard	20	322-0361	1	Holder, Lamp
300-2904	1		Precision	21	517-0131	1	Plug, Button
4	300-2906	1	Board, Over-Under Voltage Sensor - 24 VDC (A17)	22	151-0402	1	Potentiometer (R11)
5	300-2856	1	Board, Relay - 24 VDC (A13)	23	308-0785	1	Switch, Push (S11)
6	300-2863	1	Board, Relay - 24 VDC (A14)	24	308-0784	1	Switch, Push (S12)
7			Board, Engine Monitor (A11) (Includes Fuses and Connectors)	26	301-6257	1	Cover
300-2808	1		24 VDC, 2 Light	27	193-0250	3	Resistor, Gauge (R12)
300-2812	1		24 VDC, 12 Light	28	193-0352	1	Gauge, Pressure - Oil (M11)
8	321-0270	2	Fuse, Cartridge - 20 Amp (F1, F2)	29	193-0351	1	Gauge, Temperature - Water (M12)
9	321-0231	1	Fuse, Cartridge - 15 Amp (F3)	30	302-1790	1	Ammeter (M13)
10	321-0094	2	Fuse, Cartridge - 5 Amp (F4, F5)	31	302-0885	1	Meter, Totalizing - Time (M14)
11	323-1305	1	Connector, 8 Pin (P1)	32	193-0330	1	Gauge, Temperature - Oil (M15)
13	323-1309	1	Connector, 13 Pin (P3)	33	302-1873-01	1	Tachometer (M16)
14	323-1307	1	Connector, 12 Pin (P4)	34	517-0221	1	Plug, Button
15	301-8851	1	Bracket, Mounting	35	332-0052	1	Clamp, Loop
821-0004	4		Screw, Self-locking - Hex (#10-32 x 5/16")	36	870-0131	1	Nut, Self-locking - Hex (#10-32)
16			Module, Indicator - Fault (A12) (Includes Connector)	37	301-9055-01	1	Door, Control
322-0358-02	1		24 VDC, 2 Light	38	301-9055-02	1	5 Meter Holes
322-0360-02	1		24 VDC, 12 Light	39	338-1817	1	3 Meter Holes
815-0385	2		Screw, Machine - Round Head (#6-32 x 1/2")	40	323-1308	1	Harness, Wiring - DC (Includes Connector)
870-0183	2		Nut, Self-locking - Hex (#6-32)		323-1302	12	Housing, 12 Pin (J4)
					323-1304	1	Contact, Pin
					323-1200	6	*Contact, Pin
					323-1306	1	*Housing, 8 Pin
					323-1200	8	*Contact, Pin

\* - Parts Included in Engine Wiring Harness

**Engine Control  
Spec H thru L**



XSC1165



**Cummins**  
**Power  
Generation**

**Engine Control**  
**Spec H thru L**

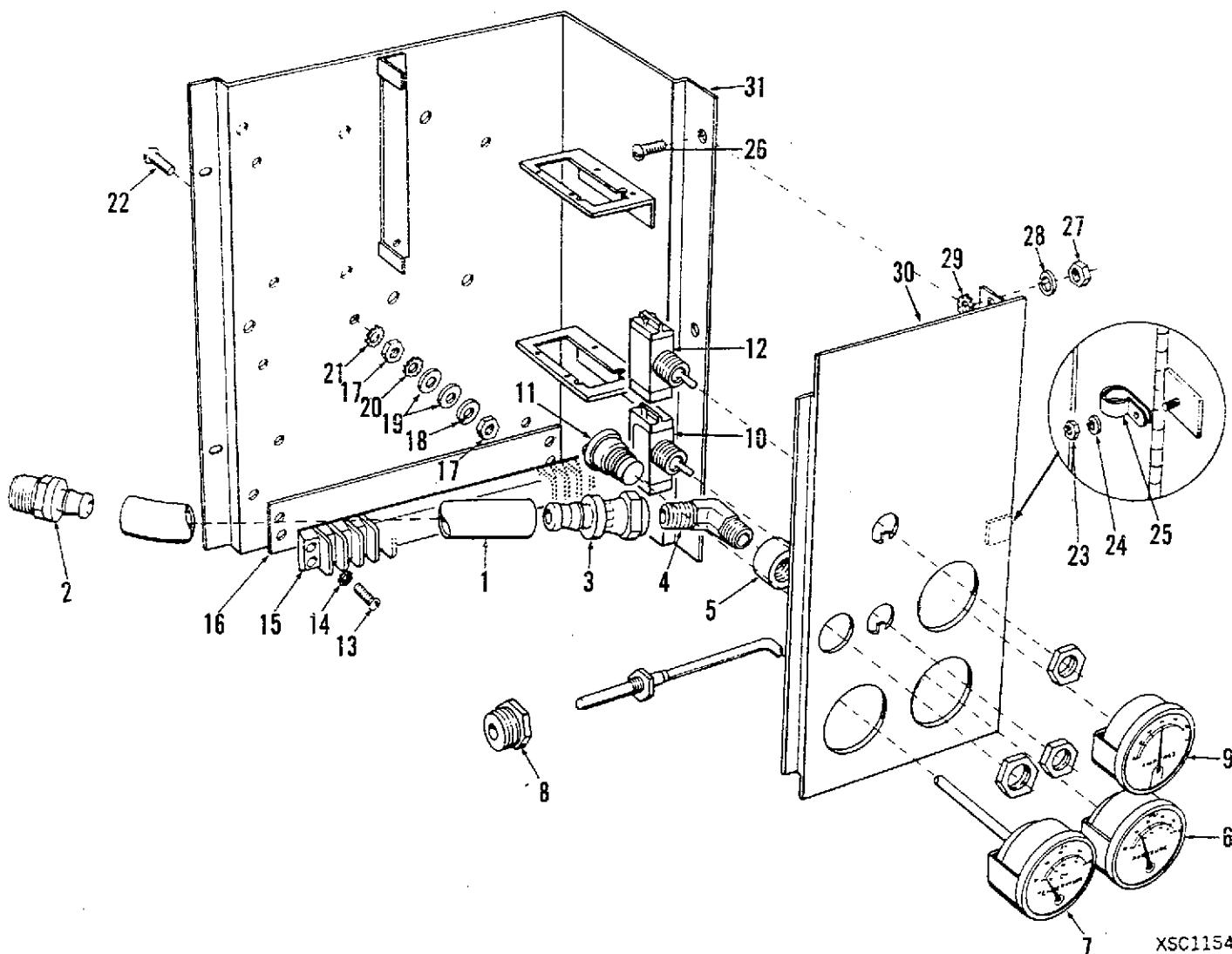
REF. NO.	PART NO.	QTY USED	PART DESCRIPTION	REF. NO.	PART NO.	QTY USED	PART DESCRIPTION
1	322-0017	1	Lamp, 24 VDC (DS11)	33	332-0051	1	Clamp, Loop
2	322-0149	1	Light, Panel	34	338-1065	1	@Harness, Wiring
3	307-1157	4	Spring, Holdown - Relay		338-1122	1	Set with Single Fault Light
4	307-1056	1	Relay, Ignition (K12)		338-1066	1	Set with Single Fault Light
5	307-1056	1	Relay, Start Disconnect (K11)		338-1221	1	and Fuse
6	307-1056	1	Relay, Run Alarm (K15)			1	Set with Five Fault Lights
7	307-1061	1	Relay, Start Protection (K14)			1	Set with Five Fault Lights
8	518-0374	1	Fastener, Snap-In				and Fuse
9			Control, Cranker - 24 VDC (A12)	35	332-1043	1	Jumper, Terminal
	300-0751	1	Standard	36	332-1005	1	Block, Terminal (TB11)
	300-0715	1	Cycle		332-0795	1	20 Place
10			Monitor, Engine - 24 VDC (A11)	37		1	16 Place
	300-0680	1	Standard, 1 Fault Light		332-1559	1	Strip, Marker
	300-0731	1	Penn State, 1 Fault Light		332-1271	1	20 Place
	300-0682	1	Standard, 5 Fault Light			1	16 Place
11	332-1276	2	Plug, Keying	38	332-0537	1	Block, Terminal (TB1)
12	193-0250	3	Resistor, Gauge (R11,R12,R13)	39	332-1239	1	Strip, Marker - 4 Place
13			Gauge, Pressure - Oil - 12 VDC	40	332-0699	1	Block, Terminal - 6 Place
			(M11)	41	332-1240	1	Strip, Marker - 6 Place
	193-0243	1	Begin 1977	42	323-0765	3	Socket, Relay (Less Terminals)
	193-0107	1	Thru 1976		332-1280	11	Terminal
14			Gauge, Temperature - Water	43	323-0765	1	Socket, Relay (Less Terminals
			12 VDC (M12)				and Keying Plug)
	193-0245	1	Begin 1977		332-1280	8	Terminal
	193-0106	1	Thru 1976		815-0392	1	Plug, Keying
15	302-1362	1	Ammeter (M13)	44	332-1271	1	Housing, Terminal
16			Gauge, Temperature - Oil - 12 VDC		332-1269	22	Terminal
			(M14)	45			Terminal, Ground
	193-0248	1	Begin 1977				(Includes Parts Marked *)
	193-0187	1	Thru 1976		871-0010	2	*Nut, Hex (#10-32)
17	302-0749	1	Tachometer (M15)		850-0030	1	*Washer, Lock - Spring (#10)
18			Light, Indicator - 28 VDC		526-0062	2	*Washer, Flat (#10)
	322-0119	1	Overcrank (DS12)		853-0008	1	*Washer, Lock - ET (#10)
	322-0120	1	Low Oil Pressure (DS14)		856-0003	1	*Washer, Lock - EIT (#10)
	322-0121	1	High Engine Temperature (DS15)		815-0203	1	*Screw, Machine - Round Head
	322-0122	1	Low Engine Temperature (DS16)				(#10-32 x 7/8")
	322-0123	1	Overspeed (DS13)	46	815-0026	5	Screw, Machine - Truss Head
	322-0129	1	Fault (DS12)				(#10-32 x 3/8")
	322-0315	1	Switch Off (DS17)	47	870-0053	1	Nut, Hex (#10-32)
	322-0137	1	Blank, No Legend	48	850-0030	1	Washer, Lock - Spring (#10)
19			Switch, Toggle - Selector (S12)	49	856-0003	1	Washer, Lock - ET (#10)
	308-0138	1	Standard	50	301-3253	1	Bracket, Mounting
	308-0327	1	Penn State				Panel, Control
20	333-0194-02	1	Flasher - 24 VDC (S13)				Single Fault Light Control
	813-0105	1	Screw, Machine - Round Head		301-3467	1	3 Meters and No Panel Light
			(#10-32 x 1")		301-4572	1	3 Meters, 1 Panel Light and
21	301-6053	1	Bracket, Mounting - Flasher				1 Fuse
22	308-0002	1	Switch, Toggle (S11)		301-3165	1	3 Meters, 1 Panel Light
23	357-0018	1	Diode (With Terminals)		301-3286	1	4 Meters, 1 Panel Light
24	813-0098	2	Screw, Machine - Round Head		301-3396	1	5 Meters, 1 Panel Light
			(#10-32 x 3/8")		301-9380	1	5 Meters, 1 Panel Light and
25	850-0030	2	Washer, Lock - Spring (#10)				1 Fuse
26	526-0009	2	Washer, Flat (#10)		301-3267	1	Five Fault Light Control
27	307-0061	1	Relay, Starting - 24 VDC		301-4831	1	3 Meters, 1 Panel Light
			(K13)				3 Meters, 1 Panel Light and
28	856-0003	2	Washer, Lock - EIT (#10)				1 Fuse
29	356-0072	1	Capacitor (C2)		301-3268	1	4 Meters, 1 Panel Light
	812-0061	1	Screw, Machine - Round Head		301-6152	1	4 Meters, 1 Panel Light and
			(#6-32 x 3/8")				1 Fuse
	853-0003	1	Washer, Lock - ET (#6)		301-3166	1	5 Meters, 1 Panel Light
	860-0006	1	Nut, Hex (#6-32)		301-6166	1	5 Meters, 1 Panel Light and
30	356-0070	1	Clamp, Mounting - Capacitor				1 Fuse
	812-0063	2	Screw, Machine - Round Head		301-4898	1	Six Fault Light Control
			(#6-32 x 1/2")				3 Meters, 1 Panel Light
	853-0003	2	Washer, Lock - ET (#6)	52	321-0181	1	Fuse, Cartridge - 5 AMP (F11)
31	870-0053	1	Nut, Hex (#10-32)	53	321-0217	1	Holder, Fuse
32	850-0030	1	Washer, Lock - Spring (#10)				

\* - Standard Harness Listed; Sets with 4 or 5 Meters and other special features may require additional electrical leads.

\* - Parts Included in Ground Terminal.



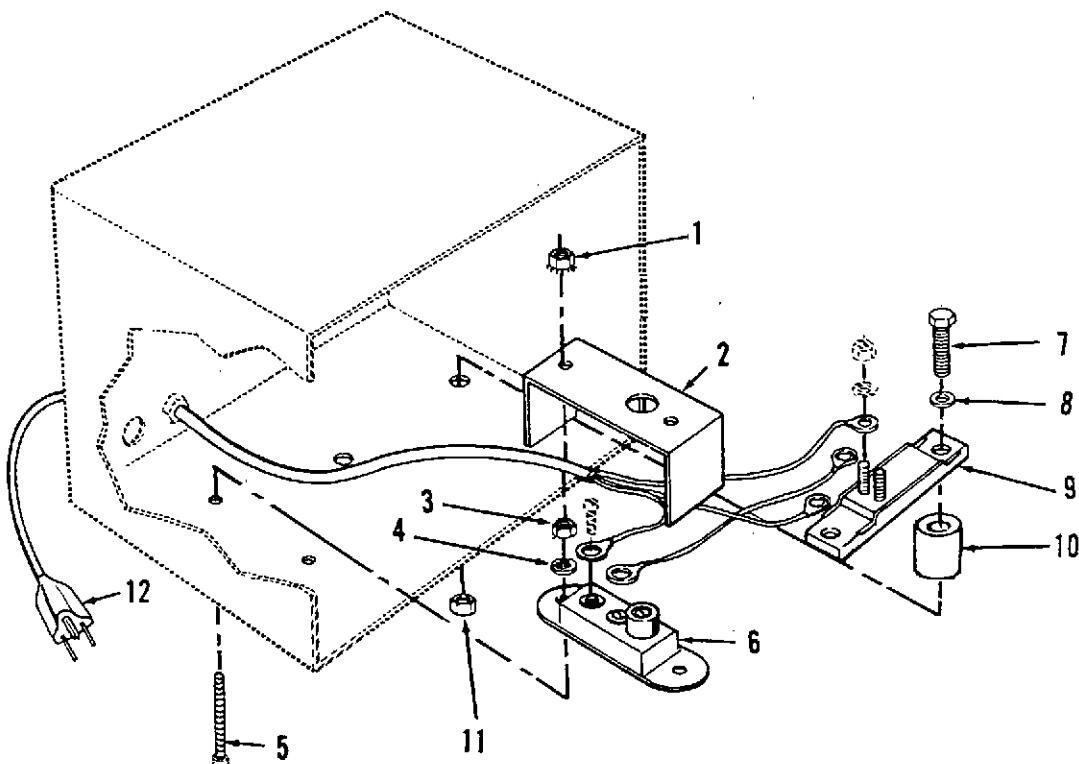
**Engine Control  
Mechanical Gauges**



XSC1154

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	503-1077	1	Hose	14	853-0003	2	Washer, Lock - ET (#6)
2	502-0444	1	Adapter, Pipe to Hose - Male	15	332-0795	1	Block, Terminal - 20 Place
3	502-0445	1	Adapter, Pipe to Hose - Female	16	332-1241	1	Strip, Marker
4	502-0583	1	Elbow, Pipe - 45 Degree	17	871-0010	2	Nut, Hex - Brass (#10-32)
5	502-0051	1	Coupling, Pipe	18	850-0030	2	Washer, Lock - Spring (#10)
6			Gauge, Pressure - Oil	19	526-0062	2	Washer, Flat - Brass (#10)
193-0232	1	1	0 - 75 Pounds	20	853-0008	1	Washer, Lock - ET (#10)
193-0233	1	1	0 - 150 Pounds	21	856-0003	1	Washer, Lock - EIT (#10)
7			Gauge, Temperature - Water (Includes Reducer)	22	815-0203	1	Screw, Machine - Round Head (#10-32 x 7/8")
193-0234	1	1	72" Capillary Tube	23	870-0053	1	Nut, Hex (#10-32)
193-0235	1	1	84" Capillary Tube	24	850-0030	1	Washer, Lock - Spring (#10)
193-0236	1	1	96" Capillary Tube	25	332-0051	2	Clamp, Loop
193-0305	1	1	144" Capillary Tube	26	815-0026	5	Screw, Machine - Truss Head (#10-32 x 3/8")
8	NFS	1	Reducer, Hex (Part of Gauge)	27	870-0053	1	Nut, Hex (#10-32)
9	302-0061	1	Ammeter	28	850-0030	1	Washer, Lock - Spring (#10)
10	308-0088	1	Switch, Toggle	29	856-0003	1	Washer, Lock - EIT (#10)
11	308-0297	1	Switch, Push	30	301-4009	1	Panel, Control
12	308-0155	1	Switch, Toggle	31	301-3253	1	Bracket, Mounting
13	812-0066	2	Screw, Machine - Round Head (#6-32 x 3/4")				

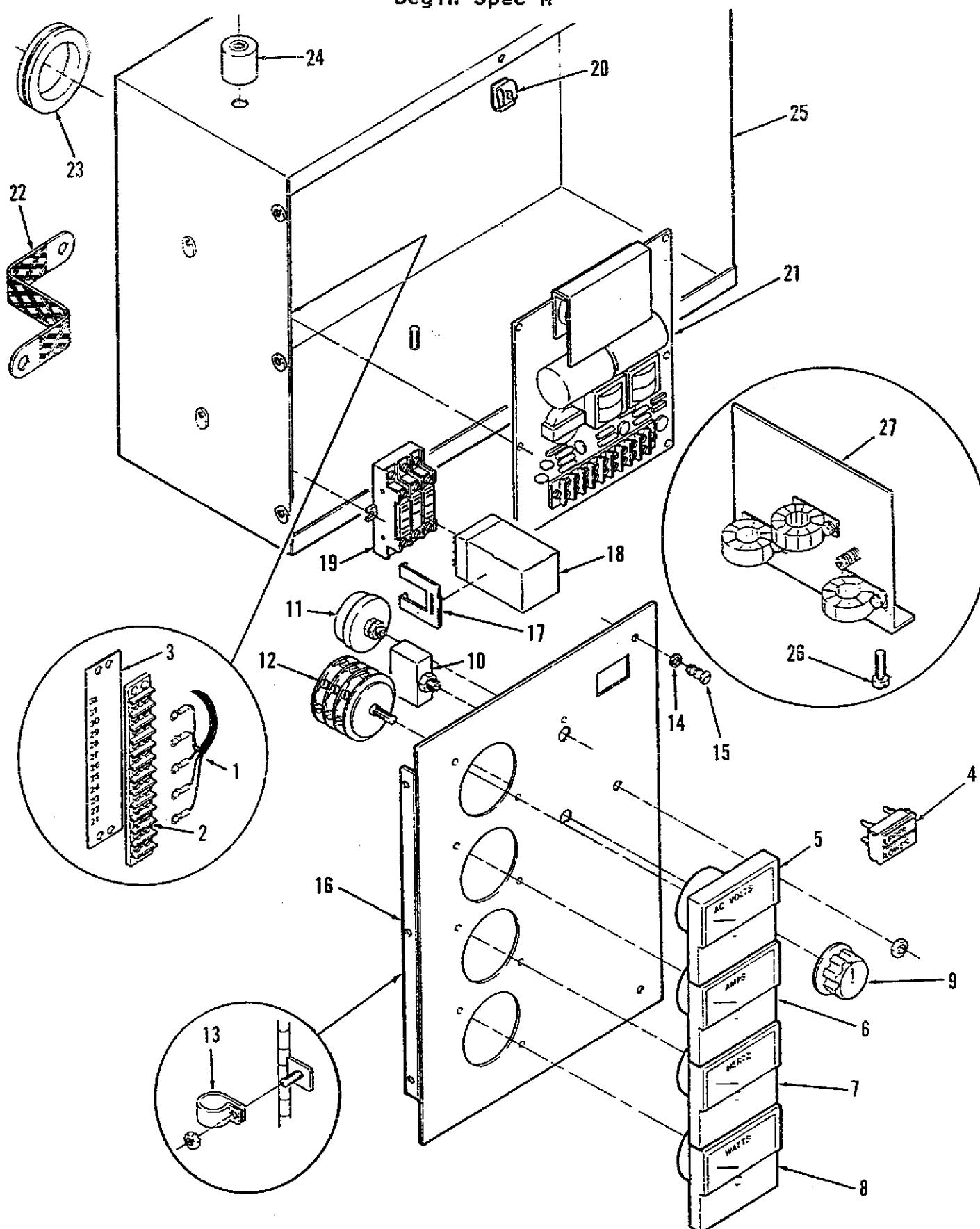
## Control Heater



SC1156

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	870-0183	2	Nut, Self-locking - Hex (#6-32)	7	800-0034	2	Screw, Cap - Hex Head (5/16-18 x 2-1/4")
2	301-1886	1	Cover	8	526-0113	2	Washer, Flat (5/16")
3	860-0006	1	Nut, Hex (#6-32)	9	333-0151	1	Heater, Electrical
4	854-0006	2	Washer, Lock - IT (#6)	10	130-1107	2	Spacer
5	812-0070	2	Screw, Machine - Round Head (#6-32 x 1-1/4")	11	870-0257	2	Nut, Self-locking - Hex (5/16-18)
6	309-0128	1	Thermostat, Adjustable	12	335-0161	1	Cable, Electrical

**Generator Control**  
**Begin Spec M**

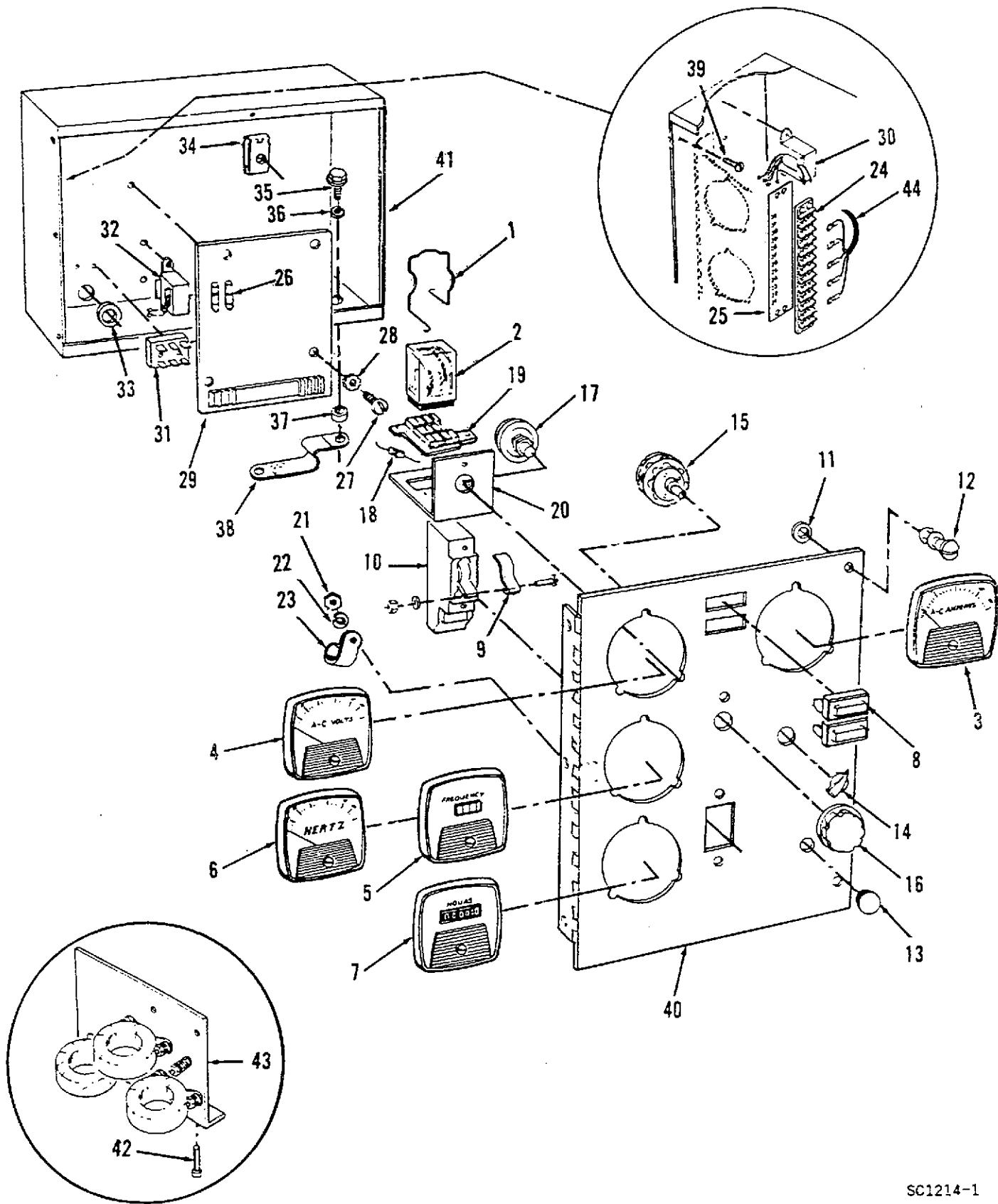


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**Generator Control**  
**Begin Spec M**

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1			Harness, Wiring - (Includes Terminal Block)	301-9054-02	1	3 Meter Holes	
	338-1818	1	Control with Meters	301-9054-03	1	No Meter Holes	
	338-1853	1	Control without Meters	821-0004	3	Screw, Self-locking - Hex (#10-32 x 5/16")	
	812-0065	2	Screw, Machine - Round Head (#6-32 x 5/8")	17	307-1987	2	Clip, Relay
2	332-0607	1	Block, Terminal (TB1)	18	307-1056	1	Relay, 24 VDC (K21)
3	332-2723	1	Strip, Marker	19	323-0804	1	Socket, Relay
4	322-0363	1	Light, Indicator - Dual (DS21, DS22)		815-0544	2	Screw, Machine - Round Head with IT Lock Washer (#6-32 x 1/2")
5			Voltmeter (M21)	20	406-0332	2	Receptacle, Fastener
	302-1148	1	0-300/600 VAC, Code 15, 515	21	300-2880	1	Regulator, Voltage (VR21)
	302-1753	1	0-750 VAC, Code 9		815-0544	6	Screw, Machine - Round Head with IT Lock Washer (#6-32 x 1/2")
6			Ammeter (M22)				Strap, Electrical
	302-1725	1	0-375/750 Amp, Code 15, 515	22	337-0049	1	Screw, Cap - Hex Head (5/16-18 x 1/2")
	302-1761	1	0-250 Amp, Code 9		800-0024	1	Washer, Lock - EIT (5/16")
7	302-1720	1	Meter, Frequency (M23)				Grommet
8			Wattmeter (M24) (See Separate page for Components)	856-0008	1	Mount, Vibration	
9	303-0032	1	Knob	23	508-0051	1	Screw, Cap - Hex Head (5/16-18 x 3/8")
10			Breaker, Circuit (CB21)	24	402-0527	2	Washer, Lock - Spring (5/16")
	320-1121	1	Standard		800-0045	4	Box, Control
	320-1438	1	Auxiliary Contact		850-0045	4	Screw, Self-locking - Hex (1/4-20 x 1/2")
11	303-0261	1	Rheostat (R21)				Current Transformer
12	308-0284	1	Switch, Rotary (S21)				(See Separate Page for Components)
13	332-0052	1	Clamp, Loop	25	301-8065	1	
	870-0131	1	Nut, Self-locking - Hex with ET Lock Washer (#10-32)	26	821-0010	2	
14	406-0334	2	Clip, Fastener	27		1	
15	406-0333	2	Stud, Fastener				
16			Door, Control				
	301-9054-01	1	4 Meter Holes				

**Generator Control**  
Spec H thru L

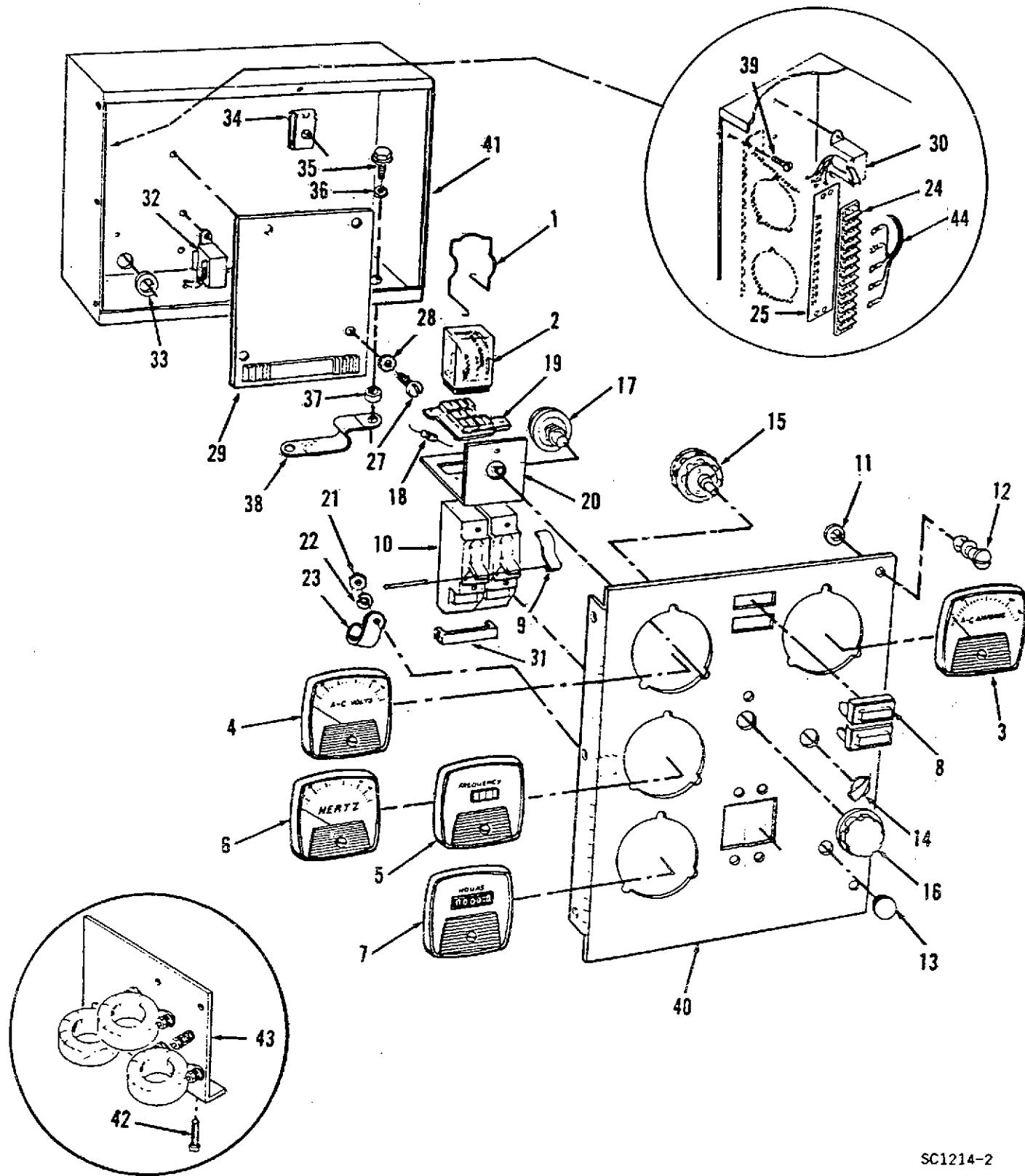


SC1214-1

**Generator Control**  
**Spec H thru L**

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION	
1	307-1157	1	Spring, Relay	24			Block, Terminal (TB21)	
2	307-1061	1	Relay (K21)	332-0607	1	12 Place		
3			Ammeter (M21)	332-0795	1	16 Place		
	302-0412	1	0-250 Amp, Code 9	812-0066	2	Screw, Machine - Round Head (#6-32 x 3/4")		
	302-0413	1	0-300 Amp, Code 6			Washer, Lock - ET (#6)		
	302-0724	1	0-375/750 Amp, Code 15, 515	853-0003	2	Washer, Lock - Spring (#6)		
4			Voltmeter (M22)	850-0020	2	Strip, Marker		
	302-0422	1	0-600 VAC, Code 6	25	1	16 Place		
	302-0779	1	0-750 VAC, Code 9	332-1242	1	12 Place		
	302-0718	1	0-300/600 VAC, Code 15, 515	332-1248	2	Fuse, Cartridge - 1/4 Amp		
5			Meter, Frequency - Reed (M23)	26	321-0204	4	Screw, Machine - Round Head (#6-32 x 5/8")	
	302-0221	1	230 VAC, 60 Hz - Code 6, 9, 15	27	812-0065	4	Washer, Lock - ET (#6)	
	302-0256	1	230 VAC, 50 Hz - Code 515			Regulator, Voltage (VR21)		
6			Meter, Frequency - Pointer (M23)	28	853-0003	1	120 VAC Input Signal Req'd	
	302-0810	1	208 VAC, 60 Hz - Code 15	29	332-1268	1	240 VAC Input Signal Req'd	
	302-0811	1	240 VAC, 60 Hz - Code 6, 9			Transformer, Voltage (T21)		
	302-0894	1	240 VAC, 50 Hz - Code 515			120 VAC		
7			Meter, Totalizing - Time (M24)	0		240 VAC		
	302-0466	1	60 Hz		315-0342	2	Screw, Machine - Round Head (#6-32 x 3/8")	
	302-0469	1	50 Hz		315-0431	2	Washer, Lock - ET (#6)	
8			Light, Indicator - Red - 125 VAC		812-0061	1	Rectifier, Bridge (CR21)	
	322-0130	1	Upper Scale (DS21)		853-0003	1	Screw, Machine - Round Head (#6-32 x 1-1/4")	
	322-0131	1	Lower Scale (DS22)			Washer, Lock - Spring (#6)		
9	320-0307	1	Lock, Handle	31	305-0675	2	Reactor (L21)	
	815-0203	1	Screw, Machine - Round Head (#10-32 x 7/8")		812-0070	2	Screw, Machine - Round Head (#6-32 x 3/8")	
	854-0010	1	Washer, Lock - ET (#10)		850-0020	2	Washer, Lock - ET (#6)	
	871-0010	1	Nut, Hex (#10-32)	32	315-0384	1	Grommet	
10			Breaker, Circuit (CB21)		812-0061	2	Receptacle, Fastener	
	320-0431	1	2 Amp			Screw, Cap - Hex Head (5/16-18 x 3/8")		
	320-0439	1	2 Amp, Auxiliary Contacts		853-0003	2	Washer, Lock - Spring (5/16")	
	812-0061	2	Screw, Machine - Round Head (#6-32 x 3/8")	33	508-0001	1	Dampener, Vibration	
	850-0020	2	Washer, Lock - Spring (#6)	34	406-0332	2	Strap, Electrical - Ground	
11	406-0334	2	Clip, Fastener	35	800-0045	4	Screw, Machine - Truss Head (#10-32 x 3/8")	
12	406-0333	2	Stud, Fastener	36	850-0045	4	Panel, Control	
13	517-0131	1	Plug, Plastic	37	402-0078	1	2 Meters, Code 6, 9	
14	303-0076	1	Knob, Pointer	38	337-0049	1	2 Meters, Code 15, 515	
15	308-0284	1	Switch, Selector (S21)	39	815-0026	1	4 Meters, Code 6, 9	
16	303-0032	1	Knob			4 Meters, Code 15, 515		
17	303-0170	1	Rheostat (R21)	40		5 Meters, Code 6, 9		
18	350-0556	1	Resistor (R22)		301-3821	1	5 Meters, Code 15, 515	
19	323-0765	1	Socket, Relay (Less Terminal)		301-3274	1	Box, Control	
	812-0061	2	Screw, Machine - Round Head (#6-32 x 3/8")		301-3342	1	Screw, Self-locking - Hex (1/4-20 x 1/2")	
	853-0003	2	Washer, Lock - ET (#6)		301-3170	1	Current Transformer	
	860-0005	2	Nut, Hex (#6-32)		301-3449	1	(See Separate Page for Components)	
	332-1280	11	Terminal	41	301-3312	1	Harness, Wiring - Standard	
20	301-3244	1	Bracket, Mounting	42	301-3158	1	Code 6, 9	
21	870-0053	1	Nut, Hex (#10-32)		301-3244	1	Code 15, 515	
22	850-0030	1	Washer, Lock - Spring (#10)	43		Multi Meter		
23	332-0051	1	Clamp, Loop			Code 6, 9		
				44		Code 15, 515		
					338-0766	1		
					338-0764	1		
					338-0759	1		
					338-0730	1		

**Generator Control  
Switching Regulator  
Spec H thru L**



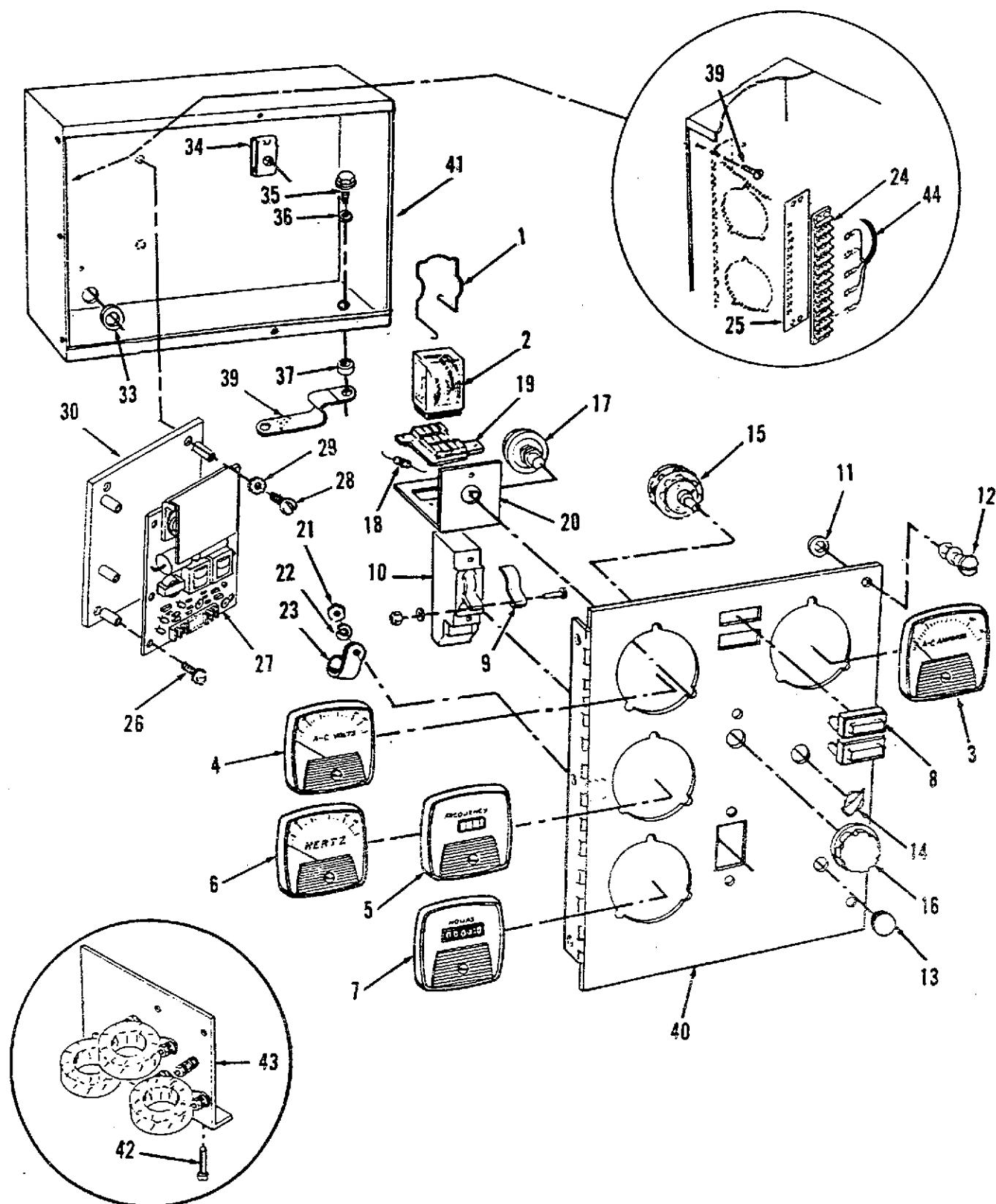
SC1214-2

**Generator Control  
Switching Regulator  
Spec H thru L**

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION		
1	307-1157	1	Spring, Relay	24			Block, Terminal (TB21)		
2	307-1061	1	Relay (K21)	332-0607	1	12 Place			
3			Ammeter (M21)	332-0795	1	16 Place			
302-0412	1	1	0-250 Amp, Code 9	812-0066	2	Screw, Machine - Round Head (#6-32 x 3/4")			
302-0413	1	1	0-300 Amp, Code 6			Washer, Lock - ET (#6)			
302-0724	1	1	0-375/750 Amp, Code 15, 515	853-0003	2	Washer, Lock - Spring (#6)			
4			Voltmeter (M22)	850-0020	2	Strip, Marker			
302-0422	1	1	0-600 VAC, Code 6	25	1	16 Place			
302-0779	1	1	0-750 VAC, Code 9	332-1242	1	12 Place			
302-0718	1	1	0-300/600 VAC, Code 15, 515	332-1248	4	Screw, Machine - Round Head (#6-32 x 5/8")			
5			Meter, Frequency - Reed (M23)	27	812-0065	4	Washer, Lock - ET (#6)		
302-0221	1	1	230 VAC, 60 Hz - Code 6, 9, 15			Regulator, Voltage (VR21)			
302-0256	1	1	230 VAC, 50 Hz - Code 515	28	853-0003	1	Semi-Frequency Sensitive		
6			Meter, Frequency - Pointer (M23)	29		Voltage Sensitive			
302-0810	1	1	208 VAC, 60 Hz - Code 15	300-1928	1	Frequency Sensitive			
302-0811	1	1	240 VAC, 60 Hz - Code 6, 9	300-1929	1	Transformer, Voltage -			
302-0894	1	1	240 VAC, 50 Hz - Code 515	300-1930	1	240 VAC (T21)			
7			Meter, Totalizing - Time (M24)	30	315-0431	2	Screw, Machine - Round Head (#6-32 x 3/8")		
302-0466	1	1	60 Hz	812-0061	2	Washer, Lock - ET (#6)			
302-0469	1	1	50 Hz			Bar, Locking			
8			Light, Indicator - Red - 125 VAC			Reactor (L21)			
322-0130	1	1	Upper Scale (DS21)	853-0003	2	Screw, Machine - Round Head (#6-32 x 7/8")			
322-0131	1	1	Lower Scale (DS22)	31	320-0202	1	Washer, Lock - ET (#6)		
9	320-0307	1	Lock, Handle	32	315-0384	1	Grommet		
815-0203	1	1	Screw, Machine - Round Head (#10-32 x 7/8")	812-0061	2	Receptacle, Fastener			
854-0010	1	1	Washer, Lock - ET (#10)	853-0003	2	Screw, Cap - Hex Head (5/16-18 x 3/8")			
871-0010	1	1	Nut, Hex (#10-32)	33	508-0001	4	Washer, Lock - Spring (5/16")		
10		1	Breaker, Circuit (CB21)	34	406-0332	4	Dampener, Vibration		
320-0431	2	2	2 Amp	35	800-0045	4	Strap, Electrical - Ground		
320-0439	2	2	2 Amp, Auxiliary Contacts		37	402-0078	4	Screw, Machine - Truss Head (#10-32 x 3/8")	
812-0061	4	4	Screw, Machine - Round Head (#6-32 x 3/8")	36	850-0045	1	Panel, Control		
850-0020	4	4	Washer, Lock - Spring (#6)	38	337-0049	1	2 Meters, Code 15, 515		
11	406-0334	2	Clip, Fastener	39	815-0026	1	4 Meters, Code 6, 9		
12	406-0333	2	Stud, Fastener			1	4 Meters, Code 15, 515		
13	517-0131	1	Plug, Plastic	40		1	5 Meters, Code 15, 515		
14	303-0076	1	Knob, Pointer	301-7078			Box, Control		
15	308-0284	1	Switch, Selector (S21)	301-6412			Screw, Self-locking - Hex		
16	303-0032	1	Knob	301-6298			(1/4-20 x 1/2")		
17	303-0170	1	Rheostat (R21)	301-8775			Current Transformer		
18	350-0556	1	Resistor (R22)	41	301-3158		(See Separate Page for Components)		
19	323-0765	1	Socket, Relay (Less Terminal)	42	821-0010	2	Harness, Wiring - Standard		
	812-0061	2	Screw, Machine - Round Head (#6-32 x 3/8")	43			Code 6, 9		
	853-0003	2	Washer, Lock - ET (#6)				Code 15, 515		
	860-0005	2	Nut, Hex (#6-32)				Multi Meter		
	332-1280	11	Terminal	44			Code 6, 9		
20	301-3244	1	Bracket, Mounting				Code 15, 515		
21	870-0053	1	Nut, Hex (#10-32)	338-0766	1				
22	850-0030	1	Washer, Lock - Spring (#10)	338-0764	1				
23	332-0051	1	Clamp, Loop	338-0759	1				
				338-1469	1				



**Generator Control  
Torque Matched Regulator  
Spec H thru L**

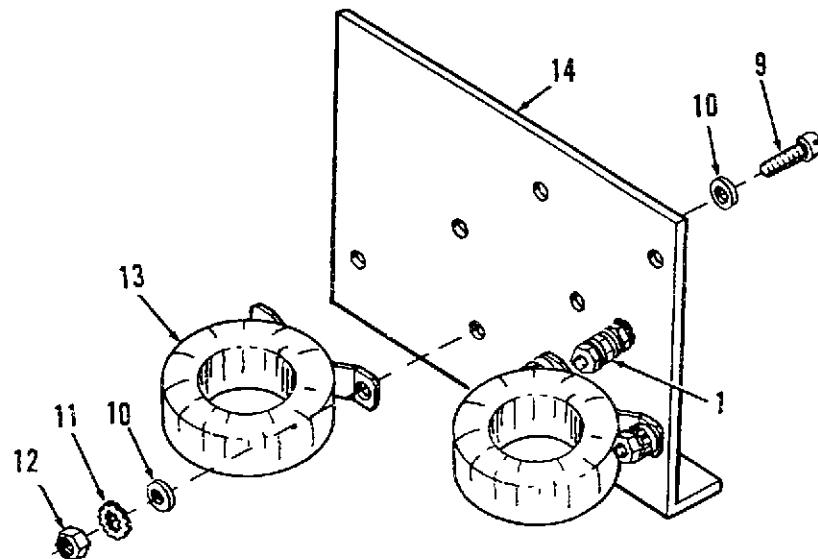
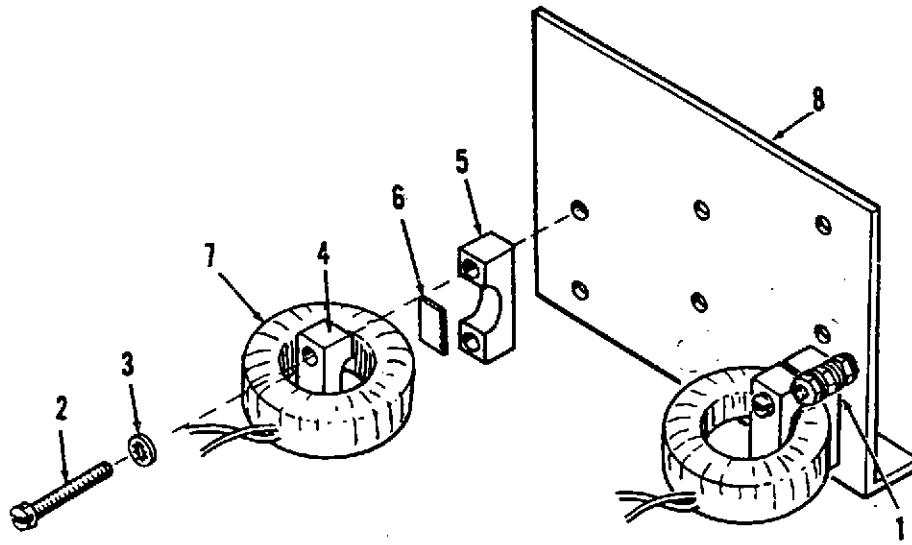


SC1214-3

**Generator Control  
Torque Matched Regulator  
Spec H thru L**

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	307-1157	1	Spring, Relay	21	870-0053	1	Nut, Hex (#10-32)
2	307-1061	1	Relay (K21)	22	850-0030	1	Washer, Lock - Spring (#10)
3			Ammeter (M21)	23	332-0051	1	Clamp, Loop
	302-0412	1	0-250 Amp, Code 9	24			Block, Terminal (TB21)
	302-0413	1	0-300 Amp, Code 6		332-0607	1	12 Place
	302-0724	1	0-375/750 Amp, Code 15, 515		332-0795	1	16 Place
4			Voltmeter (M22)		812-0066	2	Screw, Machine - Round Head (#6-32 x 3/4")
	302-0422	1	0-600 VAC, Code 6				Washer, Lock - ET (#6)
	302-0779	1	0-750 VAC, Code 9		853-0003	2	Washer, Lock - Spring (#6)
	302-0718	1	0-300/600 VAC, Code 15, 515		850-0020	2	Strip, Marker
5			Meter, Frequency - Reed (M23)	25			16 Place
	302-0221	1	230 VAC, 60 Hz - Code 6, 9, 15		332-1242	1	12 Place
	302-0256	1	230 VAC, 50 Hz - Code 515		332-1248	1	Screw, Machine - Round Head
6			Meter, Frequency - Pointer (M23)	26	815-0544	6	with IT Lock Washer
	302-0810	1	208 VAC, 60 Hz - Code 15				(#6-32 x 1/2")
	302-0811	1	240 VAC, 60 Hz - Code 6, 9				Regulator, Voltage (VR21)
	302-0894	1	240 VAC, 50 Hz - Code 515	27	300-2880	1	Screw, Machine - Round Head
7			Meter, Totalizing - Time (M24)	28	812-0065	4	(#6-32 x 5/8")
	302-0466	1	60 Hz				Bracket, Mounting
	302-0469	1	50 Hz	29	853-0003	4	Grommet
8			Light, Indicator - Red - 125 VAC	30	301-9315	1	Receptacle, Fastener
	322-0130	1	Upper Scale (DS21)	33	508-0001	1	Screw, Cap - Hex Head
	322-0131	1	Lower Scale (DS22)	34	406-0332	2	(5/16-18 x 3/8")
9	320-0307	1	Lock, Handle	35	800-0045	4	Washer, Lock - Spring (5/16")
	815-0203	1	Screw, Machine - Round Head	36	850-0045	4	Dampener, Vibration
			(#10-32 x 7/8")	37	402-0078	4	Strap, Electrical - Ground
	854-0010	1	Washer, Lock - ET (#10)	38	337-0049	1	Screw, Machine - Truss Head
10	871-0010	1	Nut, Hex (#10-32)	39	815-0026	3	(#10-32 x 3/8")
			Breaker, Circuit (CB21)				Panel, Control
	320-0431	1	2 Amp				2 Meters, Code 6, 9
	320-0439	1	2 Amp, Auxiliary Contacts	40			2 Meters, Code 15, 515
	812-0061	2	Screw, Machine - Round Head		301-3821	1	4 Meters, Code 6, 9
			(#6-32 x 3/8")		301-3274	1	4 Meters, Code 15, 515
	850-0020	2	Washer, Lock - Spring (#6)		301-3342	1	5 Meters, Code 6, 9
11	406-0334	2	Clip, Fastener		301-3170	1	5 Meters, Code 15, 515
12	406-0333	2	Stud, Fastener		301-3449	1	Box, Control
13	517-0131	1	Plug, Plastic		301-3312	1	Screw, Self-locking - Hex
14	303-0076	1	Knob, Pointer	41	301-3158	1	(1/4-20 x 1/2")
15	308-0284	1	Switch, Selector (S21)	42	821-0010	2	Current Transformer
16	303-0032	1	Knob				(See Separate Page for
17	303-0170	1	Rheostat (R21)	43			Components)
18	350-0556	1	Resistor (R22)				Harness, Wiring -
19	323-0765	1	Socket, Relay (Less Terminal)				Standard
	812-0061	2	Screw, Machine - Round Head	44			Code 6, 9
			(#6-32 x 3/8")				Code 15, 515
	853-0003	2	Washer, Lock - ET (#6)		338-0766	1	Multi Meter
	860-0005	2	Nut, Hex (#6-32)		338-0764	1	Code 6, 9
	332-1280	11	Terminal		338-0759	1	Code 15, 515
20	301-3244	1	Bracket, Mounting		338-0730	1	

## Current Transformer

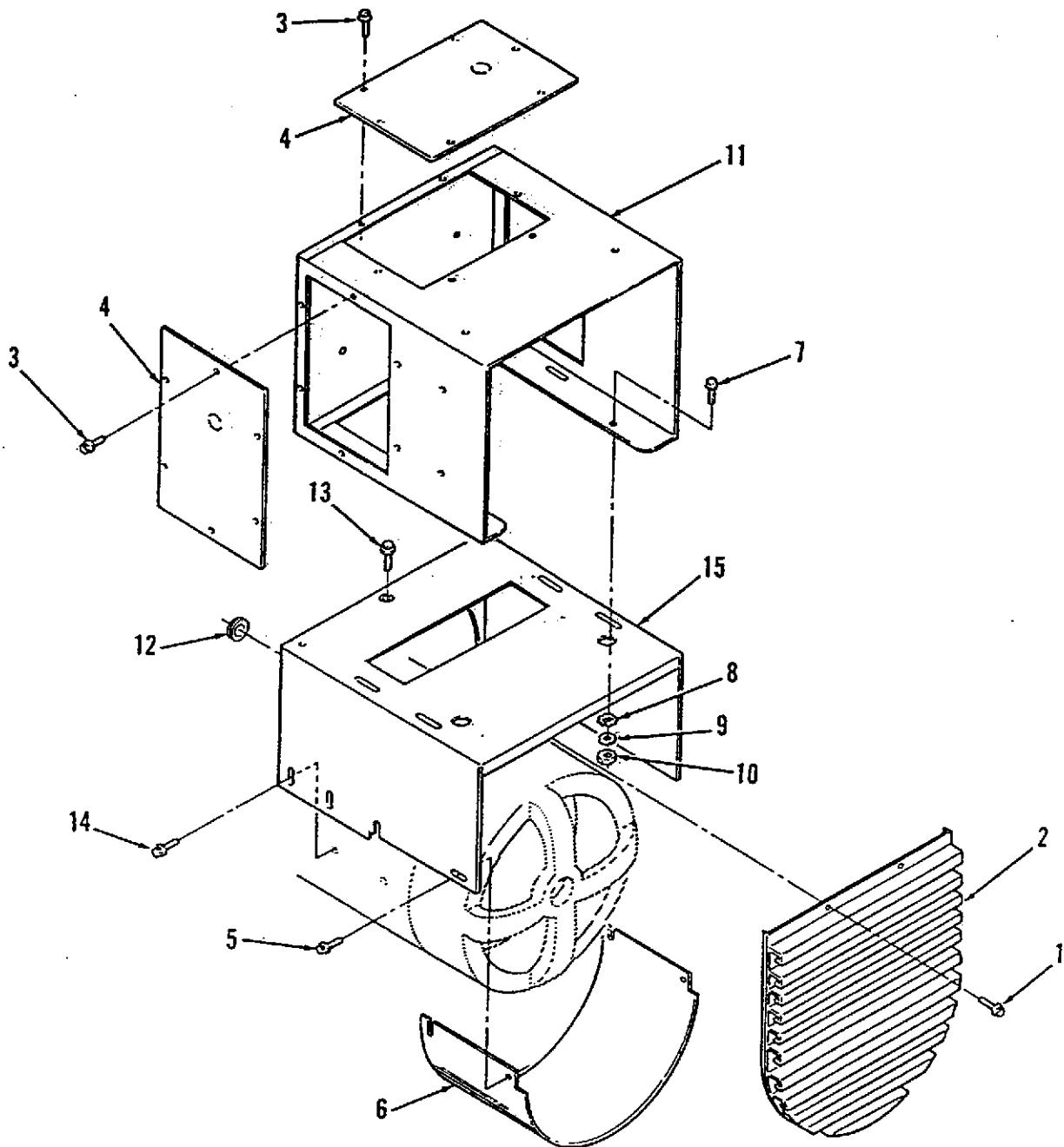


SC1150

## Current Transformer

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	815-0203	1	Terminal, Ground Screw, Machine - Round Head (#10-32 x 7/8")	7			Transformer, Current Ratio
	871-0010	3	Nut, Hex (#10-32)	302-0209	3	250/5, Code 9X (All Specs)	
	856-0003	1	Washer, Lock - EIT (#10)	302-0107	3	300/5, Code 6 (Spec H thru L)	
	854-0010	2	Washer, Lock - IT (#10)	8 302-0729	1	Bracket, Mounting	
	526-0049	2	Washer, Flat - Brass (#10)	9 813-0100	6	Screw, Machine - Round Head (#10-32 x 1/2")	
2	813-0110	6	Screw, Machine - Round Head (#10-32 x 2")	10 526-0008	6	Washer, Flat (#10)	
3	854-0010	6	Washer, Lock - IT (#10)	11 856-0003	6	Washer, Lock - EIT (#10)	
4	302-0235	3	Clamp, Upper	12 870-0053	6	Nut, Hex (#10-32)	
5	302-0236	3	Clamp, Lower	13		Transformer, Current with Mounting Feet	
6	302-0253	6	Shim	302-0471	3	750/5, Code 15, 515	
				14 302-0764	1	Bracket, Mounting	

## Control Housing

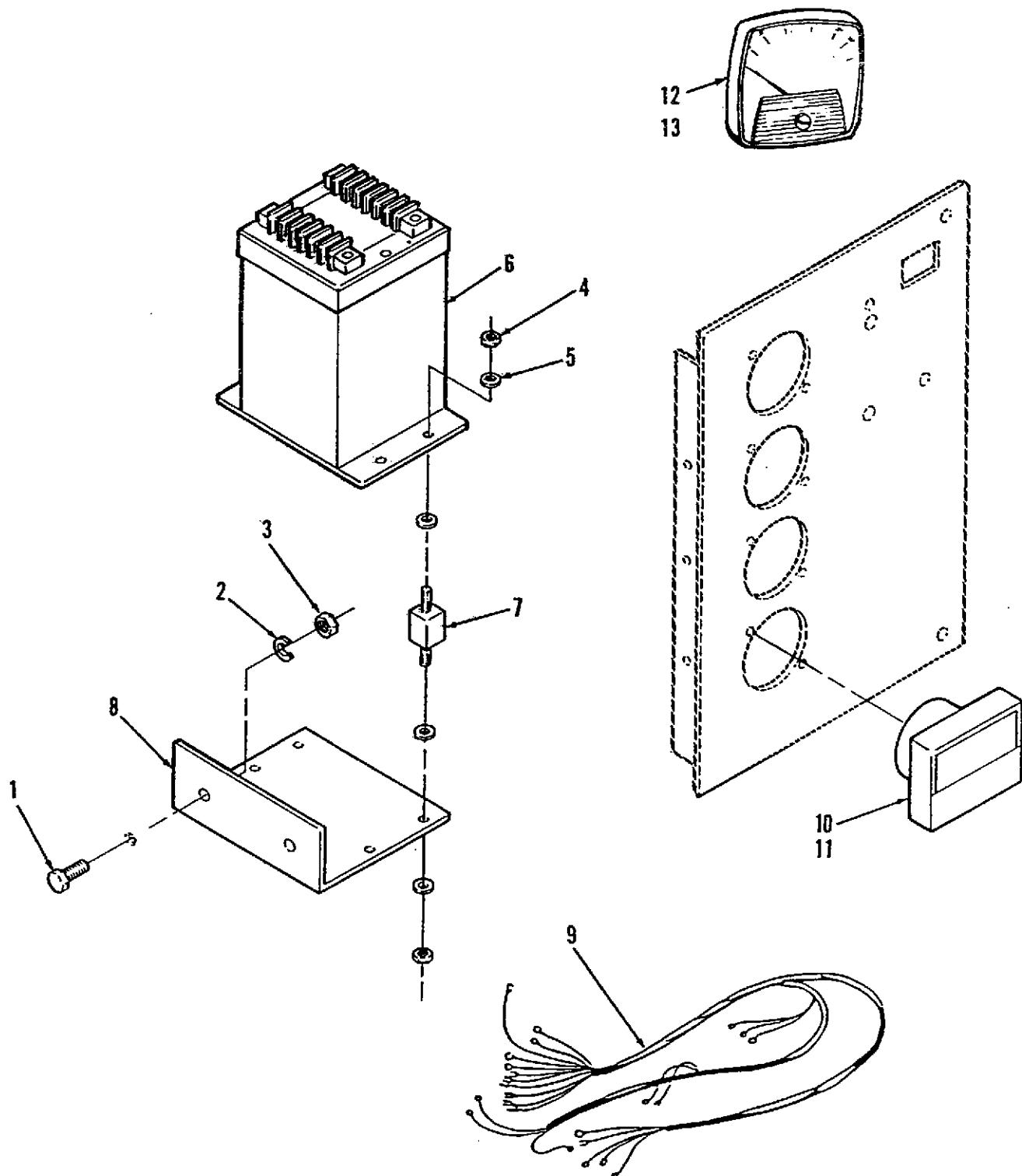


102B

## Control Housing

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	821-0010	8	Screw, Self-locking - Hex (1/4-20 x 3/4")	9	526-0018	5	Washer, Flat (1/4")
2	234-0370	1	Grille	10	870-0212	6	Nut, Hex (1/4-20)
3	815-0350	18	Screw, Tapping - Hex (#10-32 x 3/8")	11	301-3155	1	Housing, Control Box
4	301-3156	3	Panel, Access	12	508-0203	1	Bushing or Grommet
5	821-0010	4	Screw, Self-locking - Hex (1/4-20 x 1/2")	13	508-0051	1	Grommet (Thru 1984)
6	234-0361	1	Wrapper, End Bell	14	821-0010	1	Bushing, Cable - Begin 1985
7	821-0018	6	Screw, Self-locking - Hex (1/4-20 x 5/8")	15	821-0014	8	Screw, Self-locking - Hex (5/16-18 x 1/2")
8	856-0006	1	Washer, Lock - EIT (1/4")		301-3154	1	Saddle

## WATTMETER

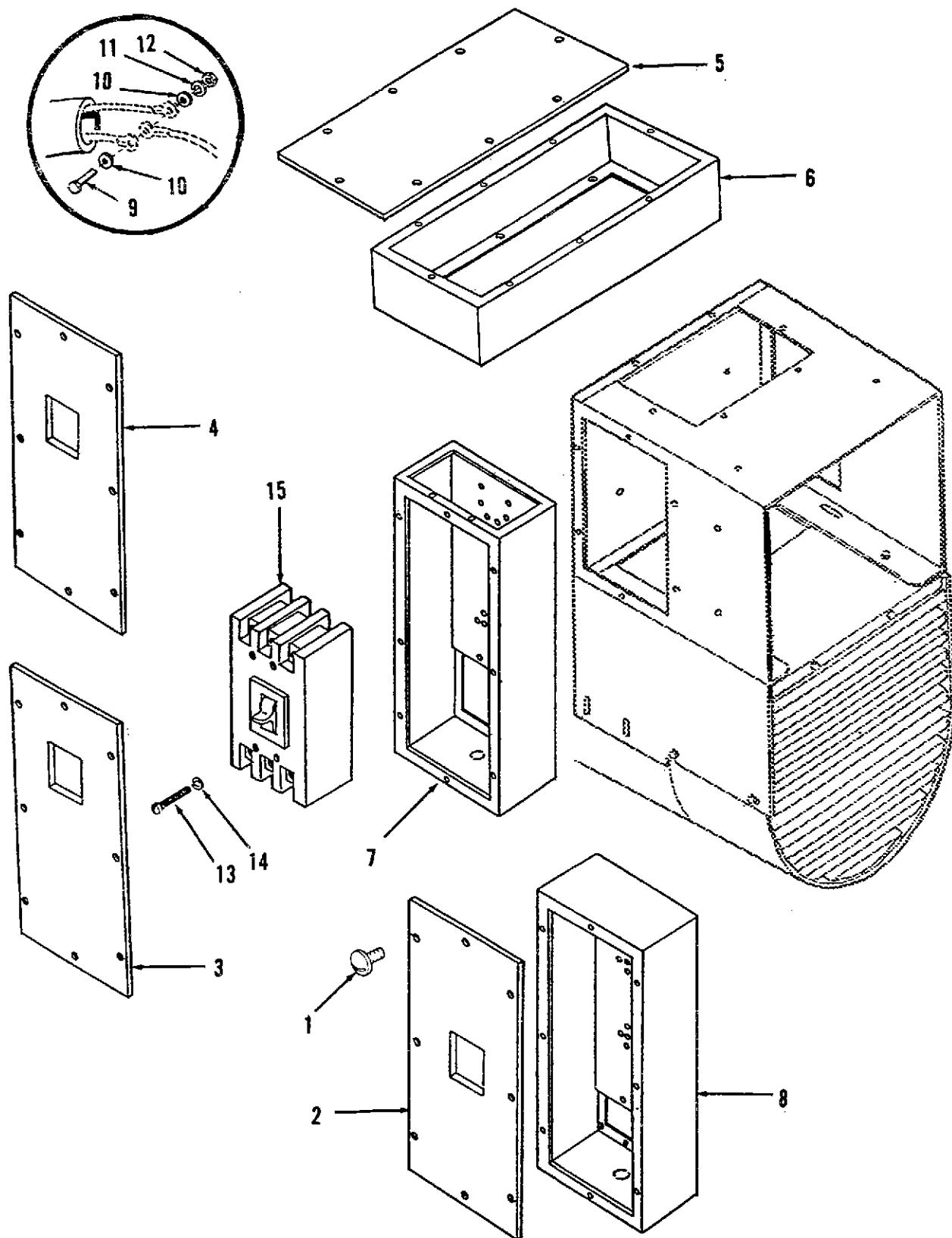


126A.

## Wattmeter

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	821-0017	2	Screw, Self-locking - HWH (5/16-18 x 1/2")	8	301-6987	1	Bracket, Mounting Harness, Wiring
2	850-0045	2	Washer, Lock - Spring (5/16")	9	338-1936	1	Wattmeter (Less Dial) (Begin Spec M)
3	862-0014	2	Nut, Hex (5/16-18)	10	302-1722	1	Dial (Scale 0-180 kW) (Begin Spec M)
4	860-0008	8	Nut, Hex (#8-32)	11	302-1721-07	1	Wattmeter (Less Dial) (Spec H thru L)
5	856-0002	16	Washer, Lock - EIT (#8)	12	302-1102	1	Dial (Scale 0-180 kW) (Spec H thru L)
6			Transducer, Watt	13	302-1109	1	Mount, Vibration
	302-1082	1	3 Phase, 60 Hertz				
	302-1083	1	3 Phase, 50 Hertz				
7	402-0078	4	Mount, Vibration				

## Circuit Breaker



SC1158-1



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## Circuit Breaker

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1			Screw, Machine ~ Truss Head (#10-32 x 3/8")	10	526-0022	10	Washer, Flat (5/16")
	815-0026	8	Used thru 1983	11	850-0045	5	Washer, Lock - Spring (5/16")
	815-0026	16	Begin 1984	12	862-0015	5	Nut, Hex (5/16-18)
2	301-3272	1	Cover, Circuit Breaker - Thru 1983	13			Screw, Machine - Round Head
3	301-8333	1	Cover, Circuit Breaker - Begin 1984 (Used with Breakers marked *)	14	812-0156	4	1/4-20 x 1-1/2"
					812-0182	4	5/16-18 x 1-1/2"
4	301-8334	1	Cover, Circuit Breaker - Begin 1984 (Used with Breakers marked @)	14	850-0040	4	Washer, Lock - Spring
5	301-8404	1	Cover, Output Box - Begin 1984	15	850-0045	4	1/4"
6	301-8405	1	Box, Output - Begin 1984	320-0447		1	5/16"
7	301-8377	1	Box, Circuit Breaker - Begin 1984	320-0269		1	Breaker, Circuit - 3 Phase
8	301-3271	1	Box, Circuit Breaker - Thru 1983	320-0626		1	* 200 Amp
9	800-0028	5	Screw, Cap - Hex Head (5/16-18 x 1")	320-0401		1	* 225 Amp
				320-0523		1	* 250 Amp
				320-0405		1	* 300 Amp
				320-0449		1	* 350 Amp
				320-0598		1	* 400 Amp, 60Hz Sets
				320-0599		1	* 400 Amp, 50Hz Sets
				320-0518		1	@ 500 Amp
						1	@ 600 Amp
						1	@ 700 Amp

\* - Indicates applicable Cover to Circuit Breaker.

@ - Indicates applicable Cover to Circuit Breaker.

## SUPPLEMENTARY PARTS LIST

This Supplementary Parts List Applies to the Standard LDFE Generating Sets as listed below. Use these parts in place of/or in addition to those listed in Main Parts Catalog 956-0220.

## ELECTRIC GENERATOR SET DATA TABLE

MODEL AND SPEC NO.	ELECTRICAL DATA					KEY
	WATTS	WIRE	HERTZ	PHASE		
136.0 LDFE-15R/*	136,000	12	60	3	1	
136.0 LDFE-515R/*	136,000	12	50	3	1	
155.0 LDFE-15R/*	155,000	12	60	3	2	
155.0 LDFE-515R/*	155,000	12	50	3	3	

\* The Specification Letter Advances (A to E, B to C etc.) with Manufacturing Changes.

NOTE: These Sets Are Reconnectable, Refer to Wiring Diagram inside Control Box Cover.

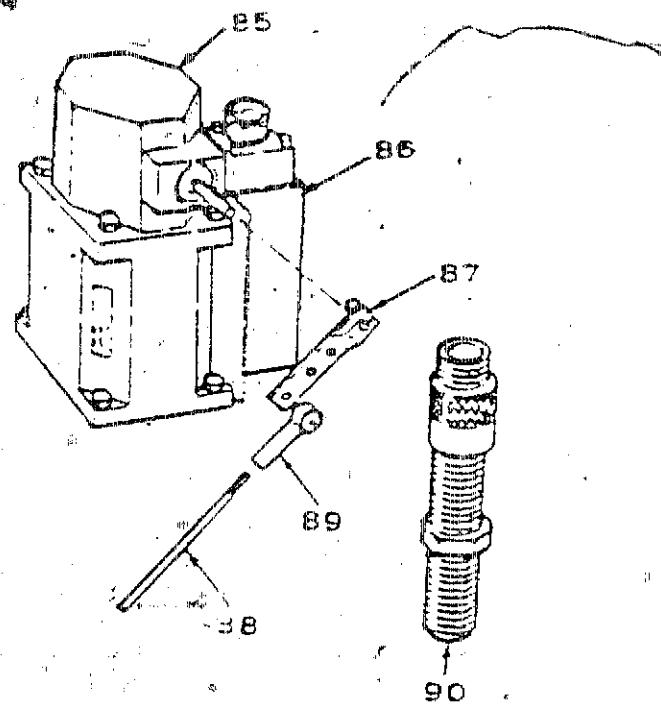
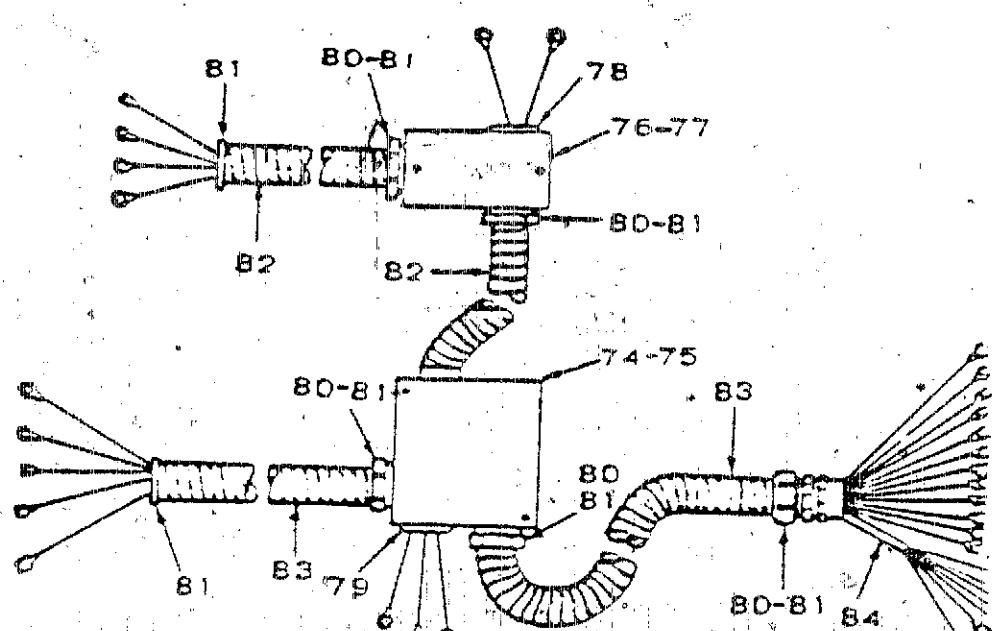
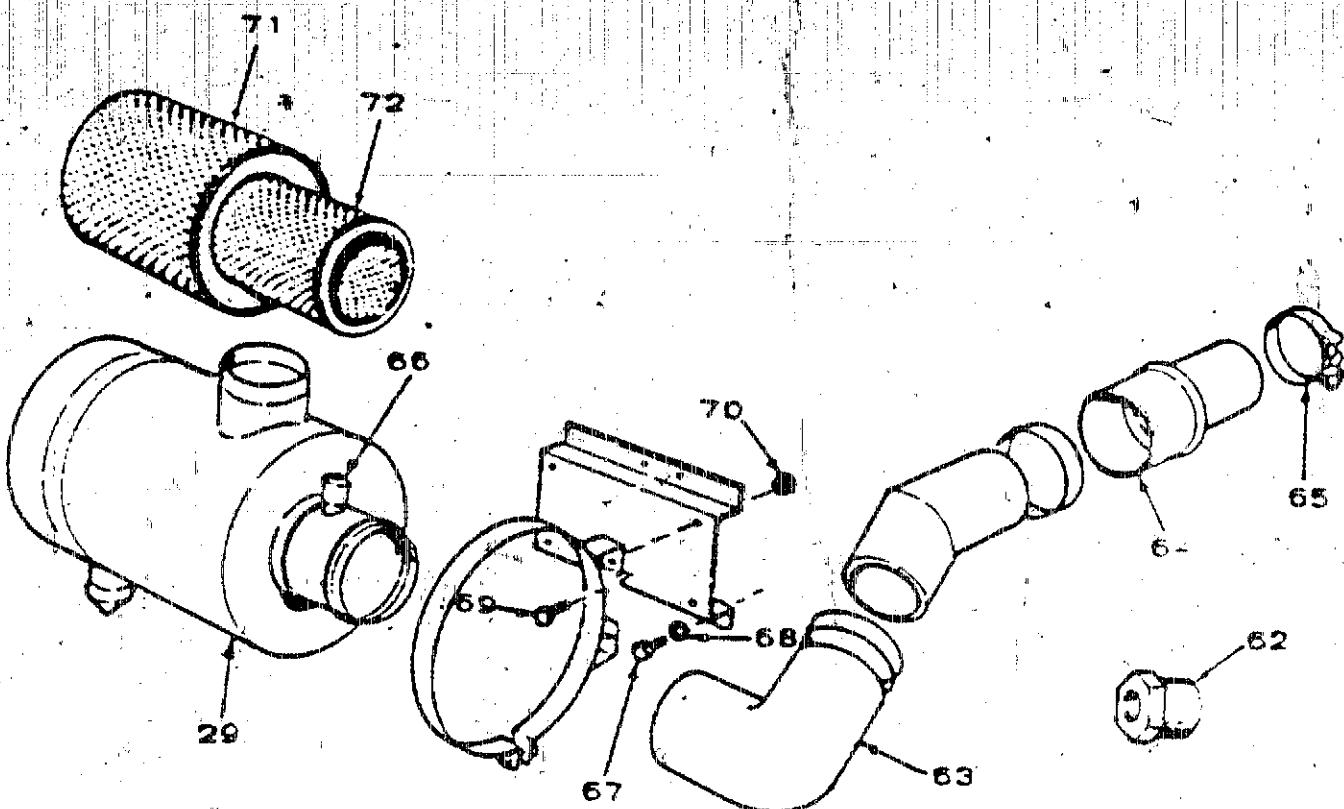
100-1578 1 Engine, Replacement

## COOLING SYSTEM

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
4	130-1304	1	Hose, Radiator (Lower)
5	503-0998	4	Clamp, Hose
6	130-1017	1	Shroud, Fan
9	130-1330	1	Shroud, Radiator/Fan
11	130-1305	1	Hose, Radiator (Upper)
12	503-0877	2	Hose, Deflection
27	503-0906	2	Hose, Upper
28	503-0904	2	Hose, Lower
29	503-0999	4	Clamp, Hose



## MISCELLANEOUS ENGINE PARTS



## MISCELLANEOUS ENGINE PARTS

<u>REF. NO.</u>	<u>PART NO.</u>	<u>QTY. USED</u>	<u>PART DESCRIPTION</u>
19	140-1546	1	Bracket, Air Cleaner
22	140-0757	2	Band, Air Cleaner Mtg.
29	140-1537	1	Cleaner, Air
31	140-1545	1	Cap, Air Cleaner
32	140-1544	1	Hose, Air Cleaner
33	503-0864	3	Clamp, Hose
48	504-0010	1	Valve, Oil Drain Shutoff
51	503-0878	1	Hose, Oil Drain
62	505-0022	1	Bushing, Reducer
63	503-0861	1	Elbow, 90° (6")
64	503-0862	1	Reducer, Tube
65	503-0863	1	Clamp, Hose (5 $\frac{1}{2}$ ")
66	140-1548	1	Indicator, Service
67	800-0097	2	Screw, Cap - Hex Head (5/16-18 x 1 1/4" Long)
68	850-0070	2	Washer, Lock - Spring (5/16")
69	800-0050	6	Screw, Cap - Hex Head (3/8-16x 1" Long)
70	870-0281	6	Nut Hex - Self Locking (3/8-16)
71	140-1631	1	Element, Air Cleaner
72	140-1630	1	Element, Air Cleaner
73	338-1123	1	Harness, Engine Wiring (includes Parts Marked *)
74	330-0093	1	* Box, Outlet
75	330-0099	1	* Cover, Outlet Box
76	330-0094	1	* Box, Outlet
77	330-0004	1	* Cover, Outlet Box
78	508-0001	1	* Grommet, Rubber (3/4")
79	508-0009	1	* Grommet, Rubber (1")
80	Connector		
	331-0149	5	* (3/4")
	331-0150	3	* (1")
81	Bushing		
	508-0201	4	* (3/4")
	508-0202	4	* (1")
82		As Req.	* Conduit, Flexible (Order by Length 331-0143)
83		As Req.	* Conduit, Flexible (Order by Length 331-0144)
84	338-0989	1	* Harness, Governor Wiring
85	151-0423	1	Actuator, Governor (B.C. No. 11005-0-0-24)
86	151-0399	1	Control (Includes Mtg Screws) - B.C. No. DYN1 - 10000-2-0-24
87	151-0441	1	Lower, Actuator (B.C. No. DYNC-208)
88	151-0442	1	Rod, Threaded (B.C. No. CYRF-43-1)
89	151-0443	2	Bearing, Rod End (B.C. No. DYN2-47-2)
90	151-0411	2	Pickup, Magnetic (B.C. No. DNN1-10200)
91		2	Bracket, Actuator Mounting (B.C. No. DYN2-68)

\* Parts included in 338-1123 Engine Wiring Harness.



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## GENERATOR

<u>REF. NO.</u>	<u>PART NO.</u>	<u>QTY. USED</u>	<u>PART DESCRIPTION</u>
1	201-2478	1	Rotor Assembly, Wound
4	Stator Assembly, Wound		
	220-1991	1	136.0 LDPE Sets
	220-1519	1	155.0 LDPE Sets

## MOUNTING AND HOUSING

<u>REF. NO.</u>	<u>PART NO.</u>	<u>QTY. USED</u>	<u>PART DESCRIPTION</u>
3	405-2016	6	Bracket, Panel Mounting
4	508-0203	1	Bushing, Nylon
27	405-2011	4	Door, Removable
28	332-1473	1	Lub, Solderless
29	301-4965	1	Bracket, Support
30	301-4964	1	Bracket, Support
31	332-2261	2	Strip, Mounting
32	332-2262	8	Tie, Cable

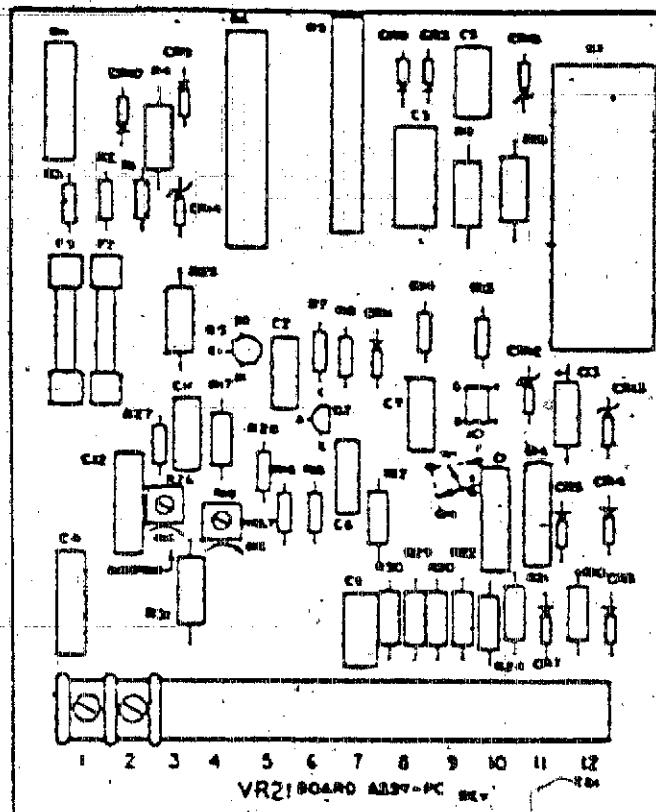
## CONTROL (AC PORTION)

<u>REF. NO.</u>	<u>PART NO.</u>	<u>QTY. USED</u>	<u>PART DESCRIPTION</u>
1	301-4586	1	Box, Control
16	Meter, Frequency		
	302-0810	1	50 Hertz
	302-0894	1	60 Hertz
51	321-0223	5	Fuse (15 Amp.)
52	321-0177	1	Block, Fuse - (3 Pole)
53	321-0176	1	Block, Fuse - (2 Pole)
54	338-1104	1	Harness, Wiring
55	332-2044	1	Regulator Board, Voltage (See Separate Group For Components)

## CONTROL (ENGINE PORTION)

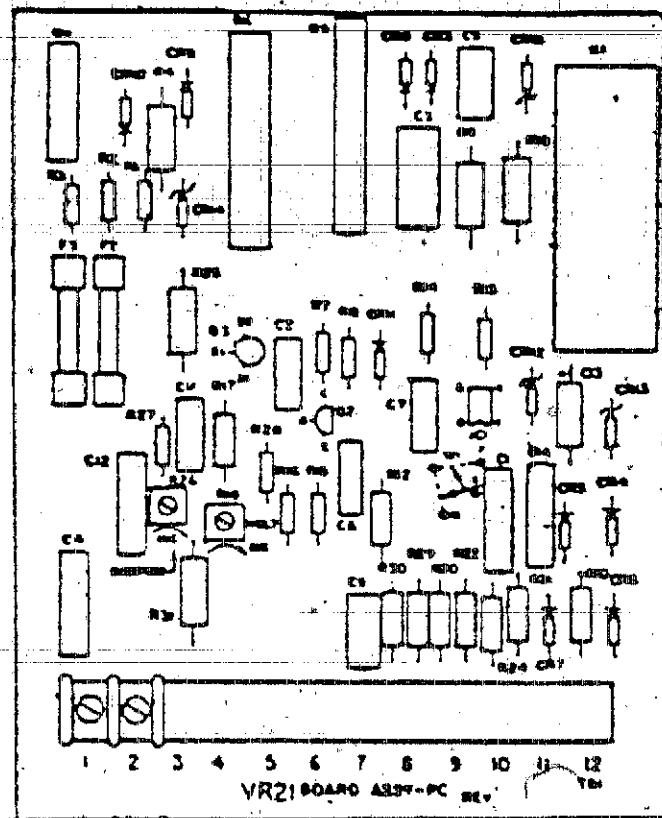
<u>REF. NO.</u>	<u>PART NO.</u>	<u>QTY. USED</u>	<u>PART DESCRIPTION</u>
1	301-4572	1	Panel, Engine Control
19	338-1122	1	Harness, Wiring
40	508-0003	1	Plate - On/Off - Seitch
41	321-0217	1	Holder, Fuse
42	321-0181	1	Fuse

**VOLTAGE REGULATOR BOARD  
ASSEMBLY**



REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
C1,14	332-1954	1	Printed Circuit Board
C2,7	355-0042	2	Capacitor - 47 Mfd., 250 Volt
C3	355-0043	2	Capacitor - 22 Mfd., 250 Volt
C4,12	355-0047	1	Capacitor - .47 Mfd., 400 Volt
C5,8	355-0044	2	Capacitor - .47 Mfd., 250 Volt
C6	355-0048	2	Capacitor - 1 Mfd., 100 Volt
C11	355-0056	1	Capacitor - .13 Mfd., 250 Volt
C13	355-0048	1	Capacitor - .1 Mfd., 400 Volt
	355-0039	1	Capacitor - Electrolytic, 100 Mfd., 10 Volt
CR3 thru 11	357-0014	9	Rectifier - Silicon
CR12	358-0036	1	Diode, Zener - 5.6 Volt
CR13	358-0025	1	Diode, Zener - 20 Volt
CR14	358-0026	1	Diode, Zener - 13 Volt
F1,2,3	321-0204	3	Fuse - 1.4 Amp
IC1	367-0005	1	Integrated Circuit
Q2	382-0017	1	Transistor - Silicon (NPN)
Q3	381-0004	1	Transistor - Unijunction
R1	350-0355	1	Resistor - 1/2 Watt, 47-Ohm
R2,3	350-0351	2	Resistor - 1/2 Watt, 33-Ohm
R4	350-1075	1	Resistor - 2 Watt, 4,700,000-Ohm
R5	353-0040	1	Resistor, Fixed - 10 Watt, 270-Ohm
R6	353-0039	1	Resistor, Fixed - 15 Watt, 5,000-Ohm
R7	350-0398	1	Resistor - 1/2 Watt, 3,000-Ohm
R8,16	350-0447	2	Resistor - 1/2 Watt, 330,000-Ohm
R10	351-0885	1	Resistor - 1/2 Watt, 51,000-Ohm
R11	352-0151	1	Resistor, Fixed - 5 Watt, 15,000-Ohm
R12	351-0909	1	Resistor - 1/2 Watt, 90,900-Ohm
R13	350-0411	1	Resistor - 1/2 Watt, 10,000-Ohm
R14	350-0443	1	Resistor - 1/2 Watt, 220,000-Ohm
R15,27	350-0435	2	Resistor - 1/2 Watt, 100,000-Ohm
R17	351-0293	1	Resistor - Metal Film - 1/4 Watt, 11,000-Ohm
R18	303-0210	1	Potentiometer - 1/2 Watt, 5,000-Ohm
R20,22,29 & 30	351-0520	4	Resistor - 1/4 Watt, 28,000-Ohm
R21	351-0522	1	Resistor, Metal Film - 1/4 Watt, 5,110,000-Ohm
R24	351-0523	1	Resistor, Metal Film - 1/4 Watt, 8,870,000-Ohm
R25,31	350-1011	2	Resistor - 2 Watt, 10,000-Ohm
R26	303-0211	1	Potentiometer - 1/2 Watt, 100,000-Ohm
R28	350-0568	1	Resistor - 1/2 Watt
TB1	332-1252	1	Terminal Block
CR15	359-0015	1	Diode, Zener - 24 Volt
	321-0163	8	Clip - Fuse
K1	307-1063	1	Relay - Magnetic Reed
R9	350-1014	1	Resistor - 2 Watt, 13,000-Ohm
R19	350-1007	1	Resistor - 2 Watt, 6,000-Ohm

## VOLTAGE REGULATOR BOARD ASSEMBLY

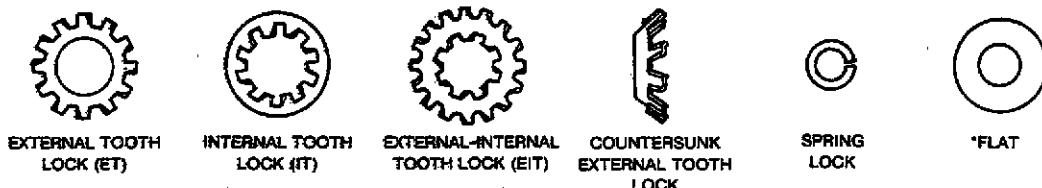


REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
C1,14	332-1954	1	Printed Circuit Board
C2,7	355-0042	2	Capacitor - 47 Mfd., 250 Volt
C3	355-0043	2	Capacitor - 22 Mfd., 250 Volt
C4,12	355-0047	1	Capacitor - 47 Mfd., 400 Volt
C5,8	355-0044	2	Capacitor - 47 Mfd., 250 Volt
C6	355-0046	2	Capacitor - 1 Mfd., 100 Volt
C11	355-0056	1	Capacitor - 23 Mfd., 250 Volt
C13	355-0048	1	Capacitor - .7 Mfd., 400 Volt
	355-0039	1	Capacitor - Electrolytic, 100 Mfd., 10 Volt
CR3 thru 11	357-0014	9	Rectifier - Silicon
CR12	359-0036	1	Diode, Zener - 5.6 Volt
CR13	359-0025	1	Diode, Zener - 20 Volt
CR14	359-0026	1	Diode, Zener - 18 Volt
F1,2,3	321-0204	3	Fuse - 1.4 Amp
IC1	367-0005	1	Integrated Circuit
Q2	362-0017	1	Transistor - Silicon (NPN)
Q3	361-0034	1	Transistor - Unijunction
R1	350-0355	1	Resistor - 1/2 Watt, 47-Ohm
R2,3	350-0351	2	Resistor - 1/2 Watt, 33-Ohm
R4	350-1075	1	Resistor - 2 Watt, 4,700,000-Ohm
R5	353-0040	1	Resistor, Fixed - 10 Watt, 270-Ohm
R6	353-0039	1	Resistor, Fixed - 15 Watt, 5,000-Ohm
R7	350-0398	1	Resistor - 1/2 Watt, 3,000-Ohm
R8,16	350-0447	2	Resistor - 1/2 Watt, 330,000-Ohm
R10	351-0885	1	Resistor - 1/2 Watt, 51,000-Ohm
R11	352-0151	1	Resistor, Fixed - 5 Watt, 15,000-Ohm
R12	351-0909	1	Resistor - 1/2 Watt, 90,900-Ohm
R13	350-0411	1	Resistor - 1/2 Watt, 10,000-Ohm
R14	350-0443	1	Resistor - 1/2 Watt, 220,000-Ohm
R15,27	350-0435	2	Resistor - 1/2 Watt, 100,000-Ohm
R17	351-0293	1	Resistor - Metal Film - 1/4 Watt, 11,000-Ohm
R18	303-0210	1	Potentiometer - 1/2 Watt, 5,000-Ohm
R20,22,29 & 30	351-0520	4	Resistor - 1/4 Watt, 28,000-Ohm
R21	351-0522	1	Resistor, Metal Film - 1/4 Watt, 5,110,000-Ohm
R24	351-0523	1	Resistor, Metal Film - 1/4 Watt, 8,870,000-Ohm
R25,31	350-1011	2	Resistor - 2 Watt, 10,000-Ohm
R26	303-0211	1	Potentiometer - 1/2 Watt, 100,000-Ohm
R28	350-0568	1	Resistor - 1/2 Watt
TB1	332-1252	1	Terminal Block
CR15	359-0015	1	Diode, Zener - 24 Volt
K1	321-0163	6	Clip - Fuse
R9	307-1063	1	Relay - Magnetic Reed
R19	350-1014	1	Resistor - 2 Watt, 13,000-Ohm
	350-1007	1	Resistor - 2 Watt, 6,800-Ohm

# HARDWARE IDENTIFICATION

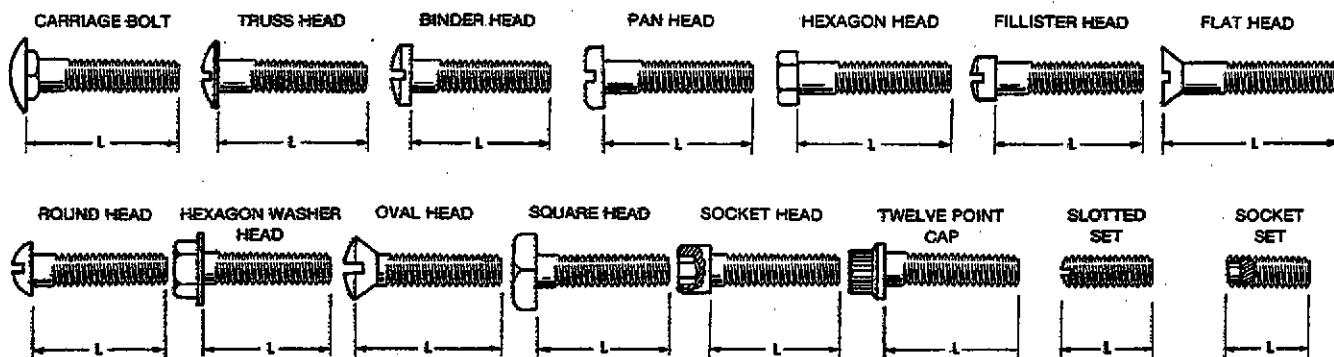
Illustrated hardware items are only for identification purposes. All hardware items listed throughout this parts catalog are steel SAE grade five (5) or lower (zinc plated with clear chromate dip) unless parts description indicates differently. All dimensions are in inches.

## WASHER TYPES



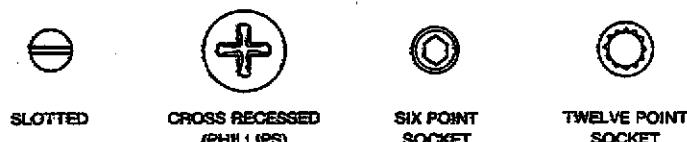
\* - Flat washer dimensions given are: Inside Diameter (ID), Outside Diameter (OD) and Thickness (Thk).

## BOLT AND SCREW TYPES



L - Measure length between these points.

### INTERNAL DRIVE TYPES



Nominal size (fractional diameter or screw number)  
Number of threads per inch  
Length in inches  
1/4-20 x 3/4"

## NUT TYPES

